# THE AUTOMOBILE

WEEKLY NEW YORK—THURSDAY, JUNE 29, 1905—CHICAGO 10 CENTS

# FROM BOTTOM TO TOP

## THAT IS THE RECORD MADE IN ONE YEAR BY

## The Hartford Perfected Dunlop Tire

TO attain this result, we did not have to provide our Demonstrators with copies of letters from interested dealers damning other types, NOR did we give our men sections cut from rival tires so prepared as to weaken them.

¶ ALL FAIR METHODS having proved futile to stem the wave of popularity THE HARTFORD PERFECTED DUNLOP TIRE now enjoys, ONE COMPETITOR has furnished his salesmen with prejudiced letters and fake sections decrying this tire.

¶ We welcome honest criticism, but protest against FAKIR methods.

---

THE HARTFORD RUBBER WORKS COMPANY,
Hartford, Conn.

BRANCH HOUSES:

| | | | |
|---|---|---|---|
| Boston | Buffalo | Chicago | Denver |
| New York | Cleveland | St. Louis | San Francisco |
| Philadelphia | Detroit | Minneapolis | Los Angeles |
| | | Kansas City | |

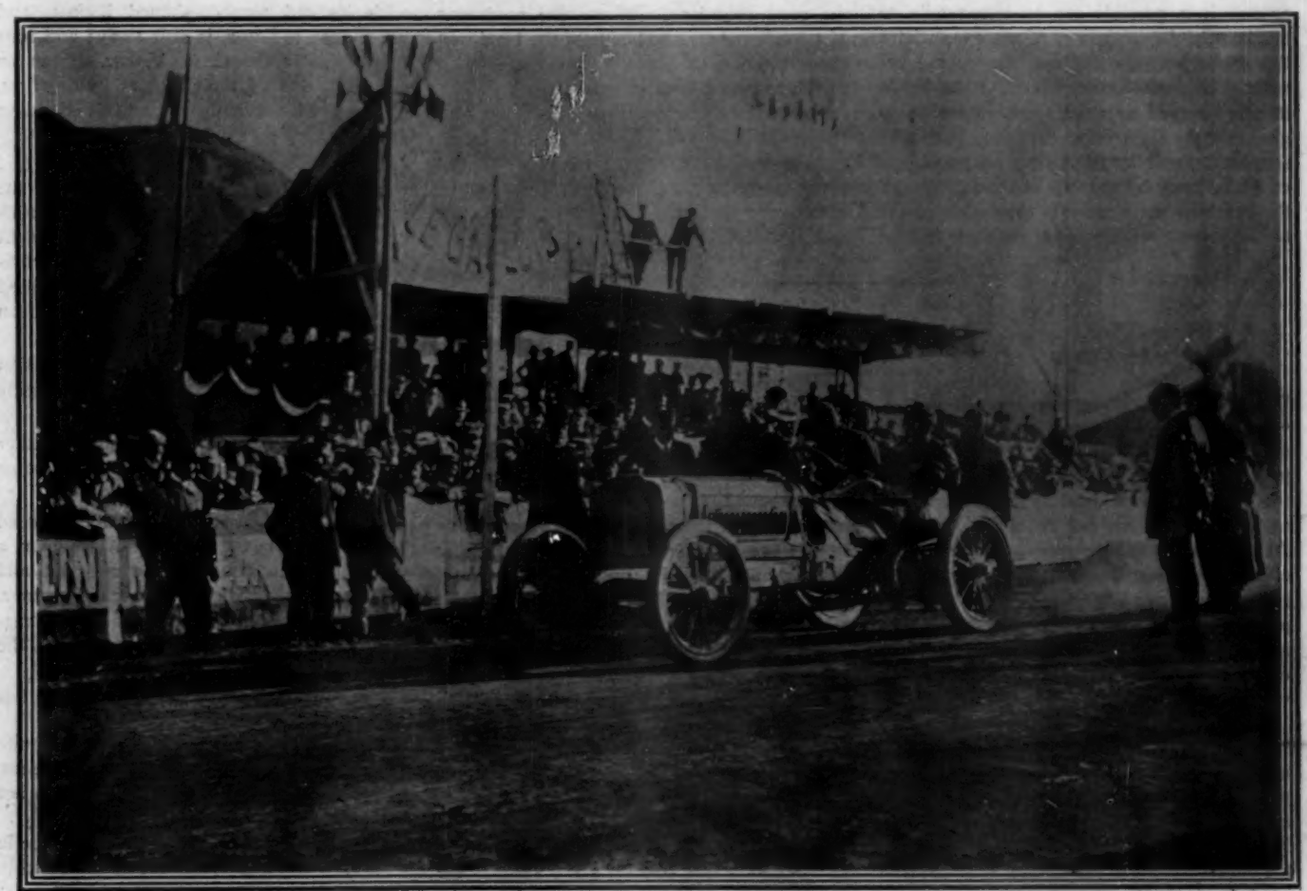
# THE AUTOMOBILE

VOL. XII. NEW YORK—THURSDAY, JUNE 29, 1905—CHICAGO NO. 26

## HOW THE FRENCH G. B. TRIALS WERE RUN.

BY W. F. BRADLEY SPECIAL REPRESENTATIVE OF THE AUTOMOBILE.

CLERMONT FERRAND, France, June 16.—The three cars which will represent France in the Gordon Bennett race on July 5, have just been selected after a test unequaled for severity in the annals of automobilism. The honors have fallen to Théry, last year's cup winner; Caillois, also of the Richard Brasier team, and to Duray, of the De Dietrich establishment. Sufficient has been written about the course for even far-away American readers to have some idea of its terrible nature—although not until it has been run over at high speed can any adequate notion be obtained of the awful strain to which the twenty-four competing machines and forty-eight men have been subjected. In spite of the tremendous difficulties, however, the race was run with remarkable regularity and keenness. Between Théry and Callois there is a difference of nine minutes, ignoring fractions, and between the first fourteen cars the average difference (still ignoring fractions), is less than seven minutes. No more striking example of the perfection of present day automobiles could be afforded than this 340 miles run over the mountains of Auvergne.



THERY IN THE WINNING RICHARD-BRASIER CAR IN FRONT OF JUDGES' STAND AFTER HE HAD FINISHED, AVERAGING 45 MILES AN HOUR.

Mechanical construction appears almost to have reached perfection, for few indeed were the cars unable to finish the course

owing to mechanical defects. The trouble of the day was tires. Théry had five new tires put on to his machine during the race. Two were on the front wheels and three on the back. One of the latter did not burst, but was changed as a precautionary measure when the fourth tire gave out. Many of the cars ran portions of the race on the rim; one of the Hotchkiss vehicles had to abandon entirely on account of tire troubles, when about two miles from home on the last round, and not a single car got through without trouble under this head.

Most of the cars carried stud bands forming an integral part of the tire, the woven band in which the studs were embedded being as narrow as possible to diminish weight. After a couple of rounds the studs were worn right down or came out in clusters. The fiber immediately yielded to the action of the road, and the rubber was attacked in its turn.

An examination of the road immediately after the race was a most interesting study, especially on the 7 to 15 per cent. grades with the numerous zig-zag bends, as difficult as any it is possible for an automobile to tackle. On the straight portions, even where the grade was the highest, the course remained in perfect condition. At the bends it was covered so thick with stones as to give one the impression that they had been scattered there for repairing purposes. It could be seen by the tracks made, that all the cars had cut close into the inside of the bend, passing within three or four feet of the road boundary. Where the road was of a sandy nature, the inside of the bend was ground down to powder and the outside thickly covered with stones.

Fortunately, the weather was good and roads perfectly dry. Much rain had fallen during early part of previous day, but the evening was fine, and to-day weather conditions were perfect. Thus, roads were dry and absolutely free from dust.

**Record of Performances of Starters in the French G. B. Trials.**

| Starting Order and No. | Car. | Driver. | Clock Time of Start. | Time of First Round. | Total Actual Running Time. | Position at Finish. |
|---|---|---|---|---|---|---|
| | | | A. M. | H. M. S. | H. M. S. | |
| 1 | Richard-Brasier | Théry | 6:00:00 | 1:42:52 | 7:34:49 1-5 | 1 |
| 2 | Renault | Sizsz | 6:04:00 | 1:48:47 | 7:55:47 3-5 | 5 |
| 3 | C. G. & V. | Girardot | 6:08:00 | 2:19:45 | Overturned at Sayat | |
| 4 | Bayard-Clement | A. Clement | 6:12:00 | 2:00:31 | Broke a cylinder | |
| 5 | Hotchkiss | Le Blon | 6:16:00 | 2:02:19 | 8:13:13 4-5 | 7 |
| 6 | Automoto | Lapertot | 6:20:00 | 2:50:45 | Did not finish; engine seized | |
| 7 | De Dietrich | Gabriel | 6:24:00 | 1:57:37 | 9:02:29 2-5 | 14 |
| 8 | Darracq | Hemery | 6:28:00 | 1:51:14 | 8:21:38 | 9 |
| 9 | Panhard | Heath | 6:32:00 | 1:59:37 | 8:11:38: 3-5 | 6 |
| 10 | Gobron-Brillie | Rigolly | 6:36:00 | 2:02:00 | 8:16:57 4-5 | 8 |
| 11 | Richard-Brasier | Caillois | 6:40:00 | 1:53:33 | 7:43:11 - | 2 |
| 12 | Renault | Edmond | 6:44:00 | 2:50:29 | 8:57:24 2-5 | 13 |
| 14 | Bayard-Clement | Hanriot | 6:48:00 | 2:10:00 | 8:23:39 3-5 | 10 |
| 15 | Hotchkiss | A. Fournier | 6:52:00 | 2:06:45 | Did not finish; tires burst | |
| 17 | De Dietrich | Rougier | 6:56:00 | 1:54:18 | Did not finish | |
| 18 | Darracq | Wagner | 7:00:00 | 1:44:40 | 7:47:11 2-5 | 4 |
| 19 | Panhard | Teste | 7:04:00 | 1:56:48 | Car overturned in ditch | |
| 21 | Richard-Brasier | Stead | 7:08:00 | 1:55:53 | 8:56:08 | 12 |
| 22 | Renault | Bernin | 7:12:00 | 1:57:54 | Did not finish | |
| 24 | Bayard-Clement | Villemain | 7:16:00 | 2:50:49 | Arrived after control closed | |
| 25 | Hotchkiss | Lavergne | 7:20:00 | 2:26:07 | 9:05:14 - | 15 |
| 27 | De Dietrich | Duray | 7:24:00 | 1:51:51 | 7:44:47 4-5 | 3 |
| 28 | Darracq | De La Touloubre | 7:28:00 | 2:09:11 | 8:30:54 | 11 |
| 29 | Panhard | H. Farman | 7:32:00 | 1:56:43 | Wheels smashed; car abandoned on road. | |

# The Race as Seen from the Grand Stand.

PRESS STAND, Gordon Bennett Course, June 16.—At 2:30 o'clock this morning strings of people armed with baskets of provisions and bottles of wine, were trudging up the hillside leading from Clermont to the starting line ten miles out of town. At the various vantage points of the circuit claims have been secured, and merry parties are camping round fire on the cliffs. It is reported that the road will be entirely closed at 4 o'clock, and the public prefers to stop out half the night to miss seeing the racers coming round the edges of the precipice.

Autos follow one another rapidly up the hill to the grand stand, where already the officials are in attendance, and animation reigns. A full moon lights up the scene showing the vast grass-covered plateau, the high mass of the Puy de Dome topped by the observatory and the smaller pine-covered ered domes in the distance.

An elegant and select assembly, at no time of the day so numerous as to cause the grand stands to be uncomfortably crowded, was present at the hour of starting. The large number of splendid automobiles which may be estimated at not less than 500, stored behind the stand, indicated the social standing of the spectators.

At exactly four minutes to six Théry's Richard Brasier car came to the starting line. The champion sat in his seat looking indifferently about, whilst his mechanic lolled about the fore part of machine, waiting the signal to crank the engine one minute before starting time. Richard Brasier came up and talked seriously to his driver, shook hands with him and the mechanic, gave some final words of instruction and stepped back as the starter began to call out the seconds.

A wave of the hand and the word "Go" from the starter and Théry let in his clutch quickly but gently, and immediately dashed down the road at high speed to the clapping and cheering of spectators.

For a couple of hundred yards the road slopes down gently. Then it begins to mount up the hill, and for a few seconds the car is hidden between the barricades. The road then rises rapidly, curving to the left, then to the right, having a 7 per cent. grade, and disappears suddenly amongst the fir trees. This double bend is clearly visible from the stand and each car's reappearance is waited for, watch in hand, about a minute after the start.

At 6:04 the Renault car, quite distinctive with its red torpedo-shaped bonnet, and horse-shoe radiator, is sent away; and four minutes later the C. G. V. car, driven by Girardot, one of the partners in the firm, goes off with a rush, his wheels skidding and throwing up much dust.

No. 4, Albert Clement, is a favorite and receives an ovation as he comes up to the starting line. For a few minutes he talks quietly to his father, standing at the right hand side of machine, and when start is given goes away cautiously, picks up speed rapidly and disappears around the bend on hillside at a high rate.

No. 5, the Hotchkiss, is driven by Le Blon instead of Fournier. He gets away quickly on the signal.

No. 6, the Automoto car, gets away rather badly; clutch is let in too quickly, and motor almost stalls.

No. 7, Gabriel, is a favorite, and is watched with interest by the spectators. Rougier, a driver for the same firm, comes out and gives him some advice in an excited manner. Gabriel replies smilingly, whilst his mechanic munches a crust of bread when the car goes off.

No. 8, Darracq, is cranked too early, has to be stopped and recranked.

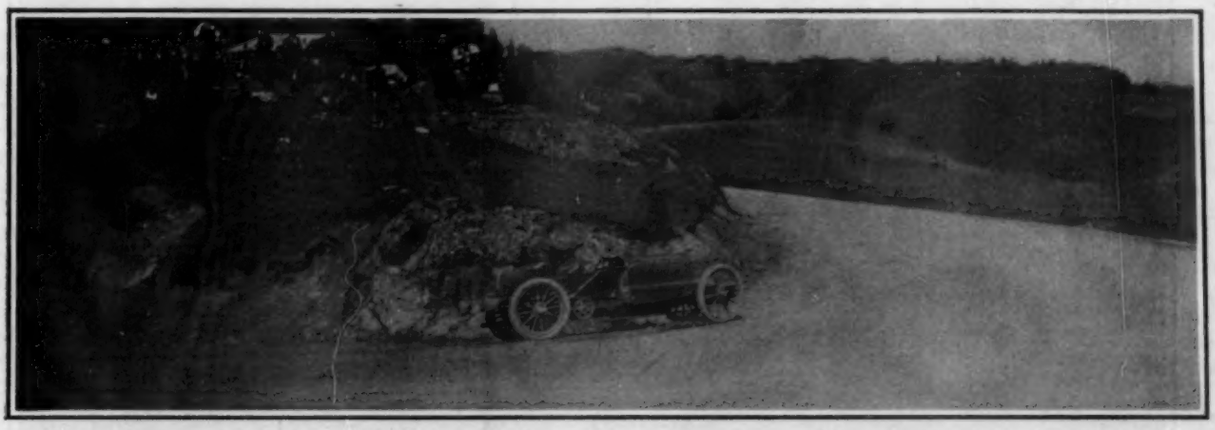
Heath, driving a Panhard, receives quite an ovation from the English colony present, and Gobron gets away just to time after some difficulty in cranking the engine.

Most of the French drivers appear to be in high spirits, and give a wave of the hand to the assembly as they get away.

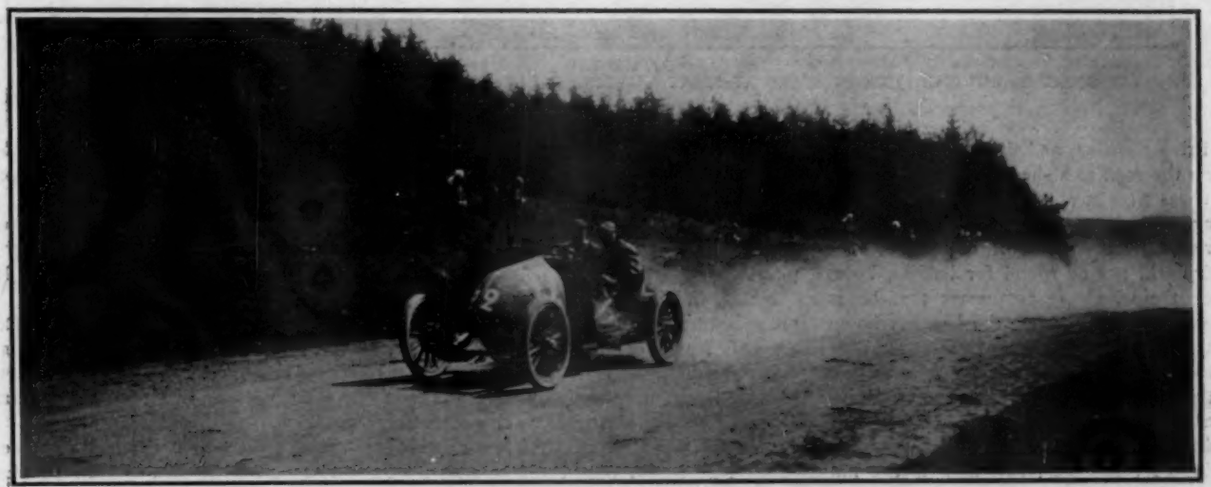
When No. 21, Brasier car, is started, the chauffeur waves to the crowd, pats his tires, as if to urge them on faster, and then settles down into his seat.

When No. 29 has disappeared, it is seen that there is a Panhard, No. 30, down the road, and a Renault *2 bis*. They are, however, spare cars, the Panhard being without

# INSTANTANEOUS PHOTOGRAPHS OF CARS IN THE FRENCH G. B. ELIMINATION TRIALS HELD JUNE 16, ON THE AUVERGNE COURSE.

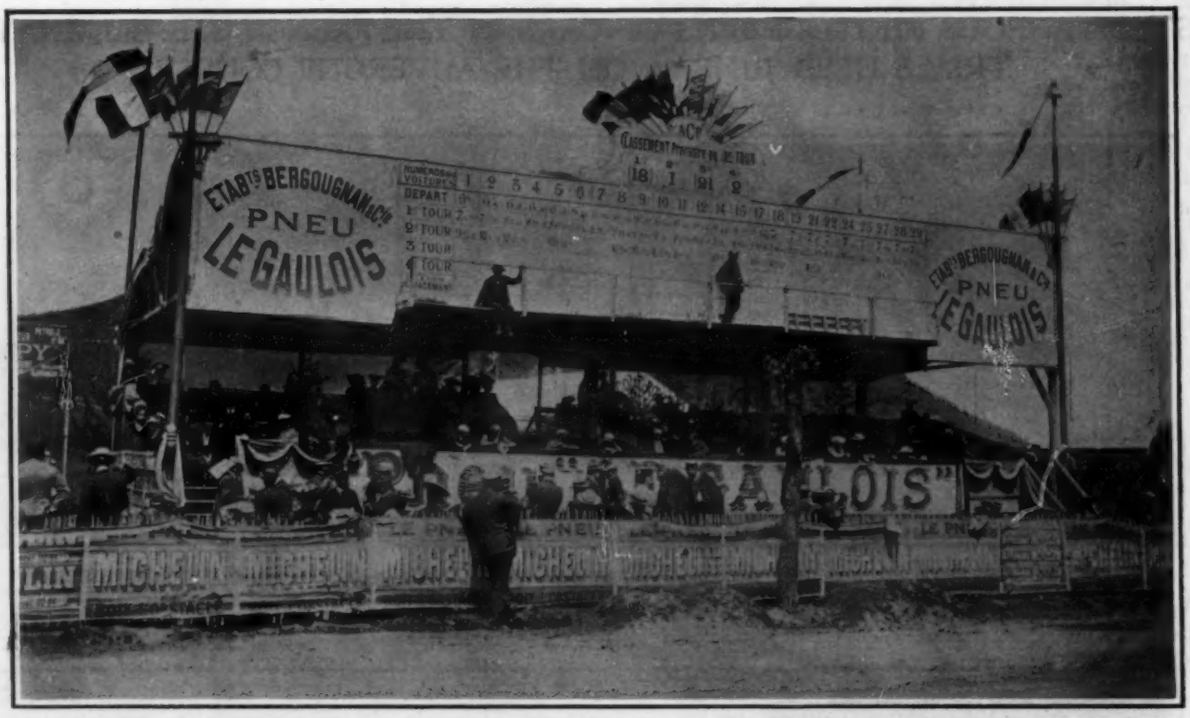


THERY KEEPING IN CLOSE TO THE BANK IN NEGOTIATING ONE OF THE SHARP CORNERS ON THE AUVERGNE COURSE.



BERNIN IN ONE OF THE RENAULT 90 HORSEPOWER RACERS MAKING FAST TIME ON A STRAIGHT STRETCH.

HEATH, WINNER OF 1904 VANDERBILT RACE, MAKING SHARP TURN AT ROCHEFORT IN ONE OF THE PANHARD RACERS.




SCORE BOARD OVER JUDGES' STAND AT START AND FINISH LINE OF THE TRIALS ON THE AUVERGNE COURSE.

its driving chains, and the two are wheeled down the road to a shed.

It was 7:32 A. M. when the last car went away, and a move is being made for the refreshment stand, for it is thought that Théry will not be round for half an hour, when the telephone announces that he is coming five miles down the hill. A boom of the cannon on the top of the Dome confirms this, and shortly after a trumpet call in the distance, repeated nearer at hand, indicates that Théry is coming. At 7:42:52 he rushes by at a tremendous speed, takes no notice of the people, and mounts the hill beyond in fine style.

His time, 1:42:52, is the fastest attained on the circuit.

Five minutes later a cry of "Ah!" as another car is announced, and at 7:52:47 No. 2, Renault, comes up, having lost but two minutes on Théry.

Next car due is C. G. V., but ten minutes pass and he does not come. Again and again cry is raised that he is coming, and people stand on their seats to look for him. But the alarm is vain and people begin to ask if Clement, who is certainly one of the favorites, will arrive before Girardot.

The excitement is great, for at this stage the race is easy to follow. There are no neutralizations to consider, for the cars will at this early stage of the journey be sufficiently widely apart to pass through controls without being detained.

At 8:12:31 Clement crosses the tape at the end of his first round. He is going well, though not so fast as Théry, and although he has gained a place on C. G. V., is about 18 minutes behind the Richard Brasier car.

About 6 minutes later, at 8:18:19, Le-Blond went by in No. 5 car, Hotchkiss being barely 2 minutes less than Clement. A minute later he is followed by No. 8, car No. 7 coming directly after, having lost one place.

No. 3, C. G. V., and No. 6, Automoto, are still unreported. No reports are coming through from outside portions of the circuit, and on inquiry it is found that telephone wires round the circuit have been cut. Communication was never re-established during the day and nobody knew anything of the race except what could be seen from the stands.

At last No. 3, Girardot, went by at 8:27:45, having spent 2:19:45 in making the circuit. At 9:26.17, Théry came rushing up on the end of his second round, his time, supposing he has not been detained on the controls, being 1:43:25.

Four cars have not yet finished their first round. The last one to pass on this round, No. 24, Clement Bayard, at 10:6:49, had been 2:50:49 in doing the course.

Interest in the race owing to lack of outside information became very slack. A brilliant sun was now shining. It was very hot, and the stands became deserted for the refreshment bar.

About half-past eleven interest in the race was suddenly revived by three shots from the top of the Dome, announcing that three cars were at the four roads about 5 miles away.

At 11:36:4 Théry finished his third round, going apparently faster than ever, though his time showed that he had lost much on his first round's record. Tremendous cheering greeted his appearance for he had become the favorite, and seemed absolutely certain of winning.

The shouts had not died away when No. 7 car, De Dietrich, finished the second round at 11:37:18, running fast only a few lengths behind Théry.

Still nearer behind came No. 12, Renault, which had been stopped a long time repairing its radiator, and was still running with it in a leaky condition, and had also abandoned the hood.

It was a thrilling moment as these three cars rushed by all of them in sight, and separated by but a few lengths.

The passage of the cars became less frequent now. Théry was sure to win, De-Dietrich, 27, was going well. Sizsz, in the Renault, had made good time and there seemed to be a possibility of Caillois bringing another Richard Brazier into the winning team.

The lack of information from the outside and the incomplete state of the scoring board had caused many spectators to temporarily lose interest in the race. Pressmen, too, were anxiously searching the news.

The parents and relatives of Albert Clement were anxiously wondering what had become of the young chauffeur, when he walked up, having traveled over country, and announced that he had abandoned his car on the road with a broken cylinder.

At 12:28:20, Caillois's car, No. 11, went by at high speed, and excitement worked up immediately when it appeared that Richard Brasier had a chance of winning two places.

Wagner, in a Darracq, followed and started on his third round at 12:42:46, and

it was seen that there would be a keen test between him and the previous car, for he was going in fine form.

A quarter of an hour's quietness and De-Dietrich, No. 27, dashed past at a furious rate. His right back tire had gone, and the spare tire strapped behind had worked loose and was almost trailing on the ground.

The only matter of interest now was the arrival of Théry. As each car was announced, the question went round, Is it Théry?

Three or four cars went by, all of them low in the scoring scale, hardly any notice being taken of them, so great is the excitement to see Théry.

At last another bugle sound and amidst tremendous applause and cries of "Brasier!" "Brasier!" Théry rushes by apparently oblivious of existence of finishing line, and only stopped three-quarters of a mile down the road.

The first car to start is the first to finish, but its position is not known, for, in addition to starting allowances, there are control allowances to calculate, and these are unprocurable.

It is about two o'clock; from mouth to mouth passes the words Théry has won, and crowds gather round Mr. Brasier to congratulate him. He accepts the congratulations, however, under reserve, and grumbles at the loss of time caused by punctures and the scarcity of tires at the repair stations.

Sizsz came in later, and he will probably also be one of the winners.

Soon after this the crowds leave the stands and endeavor to seek a means of escape from the ground. It was not easy, however, for only a few by-roads were open

By half-past four the road was open to traffic. Not until after six o'clock, when all but the pressmen had left the ground, and a car had been round the course to collect the control sheets at the outlying stations, were the official results known.

They were: Théry (Richard-Brasier), net time, 7:34:49 1-5; Caillois (Richard Brasier), net time, 7:43:11; Duray (De Dietrich), net time, 7:44:47 4-5.

The prizes gained are:

1. Richard-Brasier (Théry), $20,000, offered by the *"Auto."*

2. Richard-Brasier (Caillois), $5,000, offered by the Automobile Club of France.

3. De Dietrich (Duray), $3,000, from a public subscription list.

4. Renault freres (Sizsz), $1,000, from a public subscription list.

# Preparations on the Eve of the Race.

PLATEAU OF LASCHAMPS, June 15. —The French eliminating trials to select the team of three cars to represent France in the Gordon Bennett race, and to select five cars to compete in the Vanderbilt cup race in America, has brought together twenty-four cars, as will be seen by reference to the accompanying table on page 775. Early to-morrow morning they will be started over the mountainous circuit of Auvergne, a distance of 85.4 miles. Four times around this circuit the cars will be raced, giving a total distance to be covered of 341.6 miles.

This being the first great road race held in France since the government forbade all such events in consequence of fatal accidents, special care has been taken in drawing up the regulations and organizing the event in order that it may be made absolutely perfect.

The start will be made on the Plateau of Laschamps at 6 A.M., with an interval of 4 minutes between each car. There are three controls on the circuit: at Rochefort, at Laqueuille and at Pontgibaud. At each of these places two lines, 26.24 feet apart, are painted across the road between which each car must stop to receive its control card.

At Rochefort as soon as the car has received its card it will restart immediately, no timing taking place. At Laqueuille and Rochefort the cars will be spaced, if necessary, in the following manner: If a car arrives three minutes or more after the preceding vehicle, it will receive its control card and be restarted immediately without any timing operations taking place. If less than three minutes interval exist between it and the car ahead, the driver will be informed, immediately on stopping, how many minutes he will be detained in order that the three minutes interval may be observed. Cars are always to be detained a full number of minutes, never a fraction of a minute. When several racers arrive together, they will take up their position on the right hand side of the road, and await their turn for restarting.

No repair or refilling of tanks is allowed in the controls: Tires must not be touched, and it is absolutely forbidden to take in oil, water, gasoline, or even to empty the latter into the car's reservoirs from cans carried on board. All that can be done to the car in the control is to crank it if necessary.

Repair stations are not allowed within one kilometer either side of the control, and they must always be visible ahead for a distance of 300 meters. When stopped for

CONSTRUCTORS AND DRIVERS GROUPED ABOUT THE RACING CARS IN THE WEIGHING-IN ENCLOSURE ON AUVERGNE COURSE.

repairs the cars must get close to the right-hand side of the course, leaving the road entirely free. Only the men wearing the official badge are allowed to approach the car, and they must leave the road the moment their car has restarted.

A blue banner placed across the road indicates that speed must be diminished, and a yellow banner indicates danger and necessitates an immediate stop.

When any unforeseen event makes it necessary to stop, a yellow flag is waved in the center of the road. The temporary wooden bridges across the railway must be considered as dangerous points and crossed at not more than about 30 miles an hour.

As soon as the four courses have been finished, the car proceeds to the shed in charge of a commissaire, where weighing-in takes place again.

The preliminary weighing-in took place this morning at the special scales near the grand stand. The danger of the course has been recognized by the competitors, for every car is fitted with non-slipping stud bands, forming an integral part of the tire.

In a field a few yards off the road a square portion of land has been boarded round and roofed over sufficiently to afford shelter to the cars. From here they proceed one by one to the weighing shed and are placed on the scales.

Most of the cars were up to the limit of 1,000 kilos, and indeed in several cases it was slightly exceeded. The machines are weighed without gasoline, water, oil, tools or horns.

When the official weighers announced an excess of weight, dust pans were removed, cushions taken out, and any part which could be safely reduced in weight immediately changed for something which would give the necessary reduction.

It was the first time, and certainly the last, that all the competitors could be compared together. The opportunity was not lost by the French experts and numerous foreigners within the enclosure.

Weighing operations completed, some of the cars were stamped, carefully examined, given a control sheet and allowed to leave the ground for their private garage in the town. Others were wheeled back under their sheds and enclosed within a circle of wire netting to keep them safe from meddlesome fingers. There was not much danger of them coming to harm, for each machine was guarded by from ten to twenty blue-jacketed mechanics.

On the circuit and on all the roads leading up to it there is a movement of troops as if on the eve of a battle. The narrow, winding passes leading on to the plateau are blocked with military wagons carrying up chairs, planks, tents and other material, as well as provisions for the troops encamped in isolated places.

In every village and hamlet bodies of infantry, cavalry or artillery men are quartered, pending the taking up of their position on the course in the early hours of Friday morning. On many portions of the circuit the soldiers have already passed several hours in the positions they will occupy on Friday, and have been drilled into their duties.

Six battalions of infantry, three artillery regiments and large numbers of gendarmes, mounted and on foot, will guard the entire 85 miles of circuit.

This morning opened with a heavy downpour of rain, and up to 10 o'clock the climatic conditions were anything but favorable. On this high plateau it was cold and damp; the Puy de Dome, at the foot of which the grand stands are erected, had its summit hidden in mist, and down the sides of the mountains masses of fog were rolling like huge falling clouds. The scene was glorious in its wild beauty, and yet everyone prays that it will clear up so that the dangers of the race to-morrow will not be increased by muddy roads.

THERY, WINNER OF THE FRENCH ELIMINATION TRIALS, AT THE WHEEL OF HIS RICHARD BRASIER CAR—HE WAS ALSO THE WINNER OF THE 1904 GORDON BENNETT.

## Girardot and Farman Mishaps.

*Special Correspondence.*

CLERMONT-FERRAND, June 17.—The usual rumors of accidents were abroad during the day. These were all the more assiduous because communication with the outside portions of the circuit was impossible, owing to the telephone wires having been cut by some stupid person. Happily no loss of life attended the day's racing.

Girardot, who was driving the only C. G. V. car entered by his firm, came to grief while descending the winding road leading toward Clermont. Although his car skidded badly at the front when taking turns, Girardot rather recklessly refused to change his front tires, which had worn down to the second or third layer of fabric when he stopped the last time before the accident. His men insisted earnestly that he replace them, but he wanted to save time. Then, when making the bad turn, the tires split open from the strain and the internal pressure, and burst all the way around in the middle of the tread.

One of them blew entirely off the rim, but Girardot managed to hold the car to a safe course; the second tire came off a few seconds later, and was thrown violently up into the car and fell back onto Girardot's arm and the steering wheel. This slightly dazed him and put the car out of his control. The machine upset, throwing the mechanism out onto soft ground unharmed, but pinning Girardot underneath the machine. Although not seriously injured, his legs were badly bruised by the top of the seat, and the tank, which fell across his chest though without touching him, quickly soaked his clothes with gasoline.

A telegram from Farman, who drove a Panhard, told of the upsetting of his car when taking a turn on the side of a mountan with a natural wall of stone several hundreds of feet high on one side and a precipice as deep on the other. The car slid on its side under the impetus of its momentum and went over the edge of the road and down the precipice. The mechanician was thrown out onto the road without suffering any injury, and Farman was pitched out unharmed, and, catching some branches, he saved himself from the plunge with the car.

CAILLOIS, WINNER OF SECOND PLACE IN THE FRENCH TRIALS, AT THE WHEEL.

## Special Tires in the Race.

*Special Correspondence.*

CLERMONT-FERRAND, June 17.—The elimination trials gave the Michelin company the opportunity properly to place before the public a new non-skidding tire on which they have been working for a long time. The new tires were tested on Théry's car some days ago, and after seven times around the course they did not show undue wear.

By making a personal investigation regarding the new tires at the Michelin works, which are located here, it was learned that they follow the usual racing tire construction of this house, except that the extra tread, which Michelin forms on the wearing part of all his racing tires, is omitted and its place is taken by a band of leather which is imbedded and vulcanized into the rubber tread. This leather band carries metal studs in the usual way and protrudes but very slightly beyond the rest of the tire.

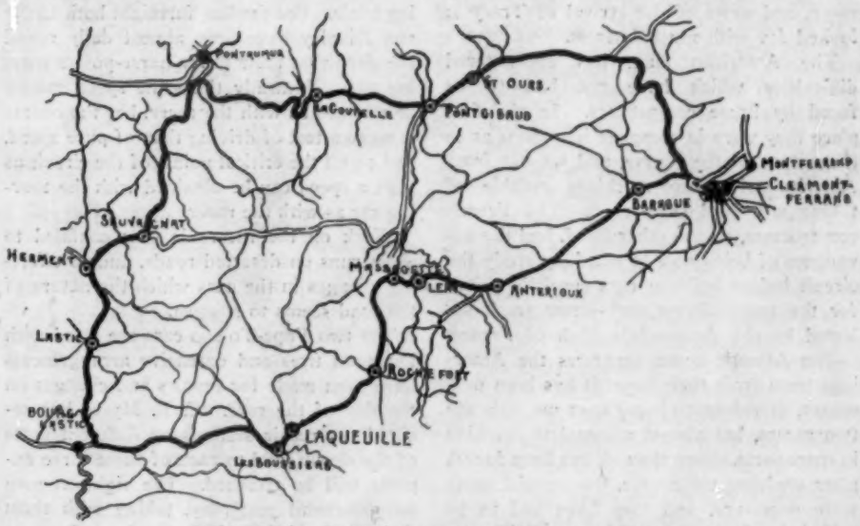
A novel idea was adopted by the Michelin people in connection with their tire stations along the course during the race. Templets were made of the exact profile of a new and perfect tire, and were distributed at all the stations. When a car stopped, the templets were immediately tried over different parts of each tire so as to enable the men to judge the extent of the wear. If the limit of safety had been reached, the tire was at once replaced.

## Banquet at Clermont-Ferrand.

*Special Correspondence.*

CLERMONT-FERRAND, June 16.—Last night a magnificent banquet was offered in the town hall to the Automobile Club of France, the press and the Municipal Council. Sumptuously catered for and magnificently decorated, the event did not, however, differ materially from the usual run of official banquets. All those whose names are now household words in automobile circles, as well as a number of military and civil officials, were to be seen.

A curious point was that at a banquet celebrating an automobile race due to the initiative of an American citizen, America was unrepresented except for the presence of the correspondents of the *New York Herald* and of THE AUTOMOBILE. Yet, however, there was another, a silent representative of the United States. On the central table, occupying a position of honor, stood a large model of an automobile built of sugar, ices, and all other mysterious and wonderful concoctions known only to those versed in the culinary arts. This *chef d'oeuvre* was the work of the chef of the Terminus Hotel, and was an exact model of the Pope-Toledo touring car. Wheel-base, wheels, body and all other dimensions had been carefully taken by the chef, reduced to scale, and thus an American car occupied the position of honor at a French banquet in an old world French town, in honor of an automobile event, owing its origin to an American citizen—James Gordon Bennett.




SKETCH MAP OF THE AUVERGNE COURSE IN FRANCE.

DURAY, AT THE WHEEL OF THE DE DIETRICH RACER, WINNER OF THIRD PLACE.

# Pope-Toledo Team at Clermont-Ferrand.

CLERMONT-FERRAND, June 15.—For the third time in the history of the Gordon Bennett race, America is making an effort to win the much-coveted trophy donated by one of her sons. The members of the Pope-Toledo team are now installed at the Terminus Hotel, in this town, and are training and making all necessary preparations for the event of July 5. The team includes H. H. Lyttle and his mechanic, Wm. Knipper; B. E. Dingley and his mechanic, John Tattersall. C. B. Myers represents the Diamond Tire Company, and has under his charge a staff of eighteen tire experts, half of them from England and half from the States. Other members of the Pope-Toledo firm expected over in a few days are: A. E. Schaff, M. V. Kelley, O. F. Webber, and Carl Fisher. Here nothing is known as to the arrival of Dr. Thomas's Locomobile racer, and news of the arrival of Tracy is looked for with much interest.

The American team has encountered difficulties which have not had to be faced by home competitors. In the first place they were in complete ignorance as to the nature of the course, and set out from America with two machines capable of taking any kind of a road. The French constructors, on the other hand, had the advantage of being able to carefully study the circuit before building cars specially suited for the mountainous cork-screw track selected by the Automobile Club of France.

The Atlantic ocean separates the American team from their base; it has been necessary, therefore, to bring over not only the two racers, but almost a complete machine in spare parts. Even then it has been found, after studying the course, that special parts were necessary, and they have had to be cabled for in haste. With no special machinery, alterations in the cars are only carried out under difficulties.

Immediately on arriving, about three weeks ago, the two Pope-Toledo racers were got into order and Lyttle and Dingley commenced a study of the circuit. The first important discoveries was that they were geared far too high and and sprockets had to be changed. It was also discovered that to run over the mountain track enormous brake power was necessary and the consequent changes had to be made. It was found that nothing but metal-to-metal brakes on the differential would hold the car.

On finding out what an extraordinary track they had to run over, the Pope-Toledo drivers resolved to go round the circuit twice a day up to the eve of the race. They had only done three turns, however, when the Prefect closed the course to all racing machines. Dingley was on his third round, having on board H. H. Nelson, when he collided with a farmer's wagon, damaging his car and slightly injuring his companion and a woman on the road. This caused a lot of excitement and the inhabitants of Rochefort, where the mishap occurred, made a threatening demonstration. A few days later the Pope-Toledo team was greeted with smiles and bows on passing the village. This, however, was the end of racing trials. For the last fortnight both Lyttle and Dingley have been almost daily round the circuit on their thirty-horse-power touring car. Naturally the same speed cannot be attained as with the racer, but the course is more a test of driving than of pure speed, and on all the critical points of the circuit as high a speed can be obtained with the touring car as with the racer.

Work on the racers is now confined to short runs on deserted roads, and to effecting changes in the cars which the nature of the road seems to suggest.

The two Pope-Toledo cars are fitted with Diamond tires and extensive arrangements have been made for repairs and changes on the day of the race. C. B. Myers has secured six repair stations on different parts of the circuit, and to each of these three experts will be attached. The eighteen men left Clermont yesterday, taking with them their stock of tires, jacks, tools, and everything requisite for quick repair work. They had also tents and all requisites for camping out, and, during the days which intervene between the preliminary and the Gordon Bennett race, will camp on the mountains and undergo daily drilling in repair work.

All the competitors have secured plots bordering the circuit, the only official regulations for which are that they must not be within a kilometer of any of the three official controls, and must be visible for a distance of 300 meters in the direction of the course. The racing machines remain in a garage adjoining the hotel and are most carefully guarded. At night a watchman sleeps on a camp bed between the two cars.

It is expected that as soon as the preliminary races are over, permission will be again accorded to race on the circuit. Not to do so would be manifestly unfair, for foreign drivers have not had the same facilities for studying the course as their French competitors. The policy would, indeed, be criminal, for some drivers—the English team in particular—have not even been a single time over the course.

**First Five Finishers in the French Elimination Race Who Are Thereby Entitled to Represent France in the Vanderbilt Cup Race Next October in America.**

| Order | Car | Driver | Horsepower | Weight pounds |
|---|---|---|---|---|
| 1 | Richard-Brasier | Thery | 96 | 2,134 |
| 2 | Richard-Brasier | Caillois | 96 | 2,134 |
| 3 | De Dietrich | Duray | 130 | 2,185 |
| 4 | Darracq | Wagner | 85 | 1,650 |
| 5 | Renault | Sizsz | 90 | 2,145 |

## French Motorcycle Trials.

*Special Correspondence.*

PARIS, June 14.—The preliminary races to select the team to represent France in the international motorcycle race of June 25, were run on the St. Arnoult-Dourdan-Ablis circuit last Sunday. In the motorcycle world the event occupies exactly the same position as does the eliminating trials for the Gordon Bennett cup in automobile circles, its purpose being to select a team of three to defend the national colors. Therefore a large crowd went out from Paris to see the start of the fifteen competitors.

The result of the race was that Demeester, on a two-cylinder Griffon of 85 millimeters bore and stroke respectively, gained first place in 3 hrs., 24 m., 57 s., being an average speed for the 245 kilometers (controls excluded), of 71 kilos. 600 m. (44 1-2 miles) an hour. Giuppone came second on a Peugeot machine, in 3:27:52, and Champoiseau, riding the same make, qualified as third member of the French team in 3:29:31.

Times were registered over a mile course, flying start, with the following results: Demeester (Griffon) :57 2-5; Lamberjack (Griffon) :56 2-5; Taveneux (Alcyon) :59 1-5; Becquet (Griffon) :58 3-5; Giuppone (Peugeot) 1:02.

Heavy rains of the previous day had put the course in perfect condition, and last year's records were beaten by a good margin. Special precautions had been taken to render the course safe and free from nails, which last year caused innumerable punctures.

The final race for the cup, which by the way, is only in its second year, will be run over the same course, and will bring together teams of three each, representing France, England, Germany and Austria.

## Foreign News Notes.

The exhibition committee in connection with the opening of the Simplon Tunnel is offering valuable prizes for an auto-omnibus and power-boat competition.

The Ladies' Automobile Club of Great Britain held its second club run and meeting at Battersea Park, London, on June 7, with a following drive out to Hurlingham.

CHIEF CHARACTERISTICS OF THE CARS WHICH STARTED IN THE FRENCH GORDON BENNETT ELIMINATION TRIALS, HELD JUNE 16, ON THE AUVERGNE COURSE.

| MAKE OF CAR. | DRIVERS. | STARTING NOS. | *TIME UP FIRST HILL | NET WEIGHT KILOS. | †WEIGHT WITH NON-SKIDS. | FRAME. | AXLES. | WHEELS. | TIRES. FRONT AND REAR. MILLIMETRES. | CYLINDERS. | CIRCULATION | CLUTCH. | IGNITION. | SPEEDS. | BORE. STROKE. MILLIMETRES. | HORSEPOWER. | DRIVE. | WHEELBASE. TREAD. METERS AND MILLIMETERS. | VALVES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Richard-Brasier... | Théry ..... | 1 | 1:06 | 970 | 998 | pressed steel | forged steel | wood artillery | 875x 90 880x120 | four, in pairs | thermo-syphon | direct cone, leather | low tension magneto | three | 160 140 | 96 @ 1200 RPM | chain | 2m 65 | 1m 25 |
| | Caillois ..... | 11 | 1:13 1-5 | | | | | | | | | | | | | | | | |
| | Stead ..... | 21 | 1:13 1-5 | | | | | | | | | | | | | | | | |
| Renault..... | Edmond ..... | 12 | 1:07 | 975 | 1000 | pressed steel | tubular | wood artillery. | 810x 90 820x120 | four, in pairs | pump | direct cone, leather | high tension magneto | three | 160 140 | 90 @ 1300 RPM | shaft | 2m 80 | 1m 35 |
| | Sizaz ..... | 2 | 1:06 2-5 | | | | | | | | | | | | | | | | |
| | Bernin ..... | 22 | 1:07 | | | | | | | | | | | | | | | | |
| C. G. & V.. | Girardot ..... | 3 | 1:14 | 820 | 997 | pressed steel | tubular | wood artillery | 820x120 880x120 | four, separate | pump | inverted cones | high tension magneto | four | 160 160 | 100 @ 1050 RPM | shaft | 2m 50 | 1m 35 |
| Bayard-Clement.. | A. Clement ..... | 4 | 1:05 | 985 | 1000 | pressed steel | forged steel | wood artillery | 870x 90 880x120 | four, separate | pump | metal discs | high tension magneto | four | 160 160 | 120 @ 1200 RPM | shaft | 2m 80 | 1m 35 |
| | Hanriot ..... | 14 | 1:16 | | | | | | | | | | | | | | | | |
| | Villemain ..... | 24 | 1:03 4-5 | | | | | | | | | | | | | | | | |
| Hotchkiss... | A. Fournier .... | 5 | 1:06 3-5 | 960 | 996 | pressed steel | forged steel | wood artillery | 880x 90 920x120 | four, in pairs | pump | leather, with locks | low tension magneto | four | 185 160 | 125 @ 1100 RPM | shaft | 2m 75 | 1m 35 |
| | Le Blon ..... | 15 | 1:07 1-5 | | | | | | | | | | | | | | | | |
| | Lavergne ..... | 25 | 1:10 | | | | | | | | | | | | | | | | |
| Automoto | Lapertot ..... | 6 | 1:48 | 905 | 998 | pressed steel | forged steel | wood artillery | 870x 90 880x120 | four, in pairs | pump | direct cone, leather | high tension magneto | four | 150 150 | 90 @ 1200 RPM | chain | 2m 70 | 1m 40 |
| Gobron-Brillie.... | Rigolly ..... | 10 | 1:15 | 1000 | 1000 | steel tube | tubular | wood artillery | 870x 90 880x120 | four, in pairs; 8 pistons | pump | direct cone, leather | battery | four | 120 220 | 110 | chain | 2m 80 | 1m 40 |
| Darracq.... | Hemery ..... | 8 | 1:03 | 750 | 915 | pressed steel | tubular | wire | 810x 90 820x120 | four, in pairs | pump | Simms-Bosch cone, leather | magneto | four | 150 140 | 85 @ 1250 RPM | shaft | 2m 40 | 1m 35 |
| | Wagner ..... | 18 | 1:01 4-5 | | | | | | | | | | | | | | | | |
| | De La Touloubre. | 28 | 1:09 4-5 | | | | | | | | | | | | | | | | |
| De Dietrich. | Gabriel ..... | 7 | 1:07 2-5 | 993 | 1000 | pressed steel | forged steel | wood artillery | 910x 90 920x120 | four, in pairs | pump | direct cone, leather | low tension magneto | four | 190 150 | 130 @ 1260 RPM | chain | 2m 85 | 1m 35 |
| | Rougier ..... | 17 | 1:09 4-5 | | | | | | | | | | | | | | | | |
| | Duray ..... | 27 | 1:09 | | | | | | | | | | | | | | | | |
| Panhard.... | Farman ..... | 29 | 1:04 2-5 | 975 | 1002 | pressed steel | forged steel | wood artillery | 870x 90 880x120 | four separate, steel, cop. jackets | pump | metal discs | Eiseman magneto & bat'ry | four | 170 170 | 120 @ 1200 RPM | shaft | 2m 80 | 1m 35 |
| | Heath ..... | 9 | 1:05 2-5 | | | | | | | | | | | | | | | | |
| | Teste ..... | 19 | 1:09 4-5 | | | | | | | | | | | | | | | | |

All inlet valves mechanically operated.

* These times have no significance except as showing the comparative speed in getting away and to the top of the first hill a mile and a quarter from the grandstand.

† The cars were weighed twice, the second time with anti-skid devices attached, owing to the threatening weather. The preceding column gives the normal weight of the cars as given by the makers and this column the official weights as taken June 15 on the A. C. F. scales.

The miserable weather greatly interfered with the run in which only fourteen cars took part.

An interesting car is at present on view in London; it is the 40-45-horsepower Mercedes, built especially as a wedding present for the German Crown Prince. The order was changed at the very last moment to two 28-32 horsepower chassis by the Emperor, who was afraid that the first would be too powerful for the Crown Prince, and give rise to unwarranted racing.

Some interesting tests were made recently at Crystal Palace, London, at the instance of S. F. Edge, to demonstrate how much easier it is to control and stop an automobile than a horse-drawn vehicle. It was found that a motor mail van moving 7.6 miles an hour stopped in a distance of 8 feet, after the signal was given, while a two-horse van, moving at the same speed, required 28 feet. On a second trial, both moving at 7.8 miles, the automobile stopped in 9 feet, and the horse van in 24. A 40-horsepower Napier and a single-horse carriage were then tried. Moving side by side at a speed of 12 miles, the former stopped in 26 feet and the latter in 53 feet, on the first trial, and on the second attempt, the automobile, moving at 13 miles an hour, stopped in 10 feet and the carriage in 47. A 15-horsepower De Dion and a hansom cab were driven down the pavement at 11 miles an hour and on signal the former stopped in 10 feet and the carriage in 47 feet. feet. The last trial was with a 90-horsepower Napier racing car, against a trotting-sulky. Moving at 18 miles, the auto stopped in a distance of 24 feet and the sulky in 35 feet. At 20 miles, the respective distances were 26 feet and 44 feet. The conclusions as to the relative safety to the public of the two forms of transportation are obvious.

The "motor eye" has been hauled to light again by a dissertation of Dr. Mirovitch's, of the French Academy, who has been studying the subject and finds that the curved position of the sitter is very prejudicial to the sight, as it leads to organic modifications of the eye-ball muscles and troubles of refraction. Apart from the microbes of dust met with, the constant atmospheric pressure caused by rapid movement induces kaleidoscopic confusion ending sometimes in momentary blindness and which frequently accounts for accidents. Eye protectors, he says, should always be worn.

---

An English Parliamentary candidate cleverly avoided committing himself on the "automobile peril" question, according to an English contemporary, by making the following statement: "I occasionally drive a small motor car, and I equally frequently ride a horse. When I ride a horse, I hate every motor car I see, and when I see a motor car, I am nervous of the sight of a horse: therefore, I can only assure the questioner that I will do my level best to keep the highways in their pristine state."

# Carbureter Functions Discussed.*

By MERVYN O'GORMAN.

*Continued from page 693, issue of June 8.*

PART III.

*An Experimental Carburetter.*—An ideal carburetter is one which is extremely simple, but no invention begins by being simple. Simplicity is the outcome of laborious investigations and intricate experiments. In attempting to put down a scheme for an experimental carburetter let us suppose that cost does not matter, and, therefore, begin with a determination to provide against every fault, and allow every adjustment regardless of complexity. This amounts to an attempt to *specify what we want.* We can simplify and seek for a form compatible with manufacturing conditions later on.

*Dirt and Water.*—Gauze must be introduced in the course traversed by the gasoline to the float case, and a large accessible pocket must be placed under the gauze, and under the float to provide a collecting ground for grit, green deposit and water. The pipe must be long and flexible, and made of soft copper or brass to stand being fixed to the car at one end and to the vibrating engine at the other. A tap must be provided above the bottom of the float chamber so that the sediment in the chamber shall not fall back into the valve seat.

*The Float.*—The carburetter, if of the usual type, must have a constant level at the jet, and this constancy must be maintained whether the car is going up hill or down hill, or is tilted by the camber of the road—Fig. 14. That requires (1) an annular float

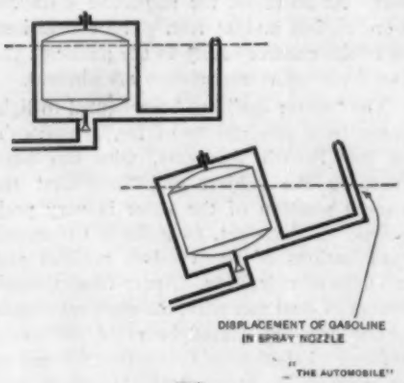



FIG. 14.

with the jet in the middle (Fig. 15), or at least a float chamber, the central axis of which is very near the jet—Fig. 16.

*Atmospheric Pressure.*—Next we must take care that the very thin metal of the float is dome or cup-shaped, or otherwise strong enough to resist the tendency to expand when the engine suction produces a slight vacuum in the float chamber, or when the barometer falls either from atmospheric reasons, or when climbing mountains. If the metal of the float is sufficiently thin and flat the float will increase in volume at high engine speeds and tend to lower the level of the gasoline at the jet, giving less gasoline than normally. This fact might be utilized in some way, but it is an awkward law to bring into play, not only because it depends on the stiffness of the

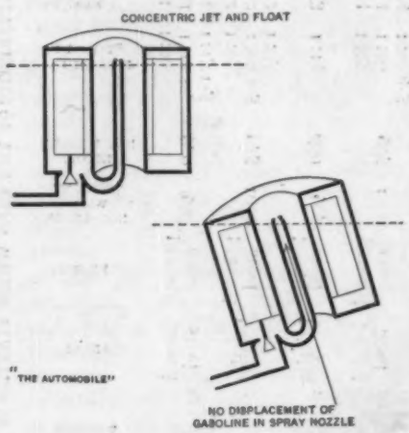



FIG. 15.

sheet metal, which may vary from float to float in the manufacture, but because barometric changes will have a disturbing effect, as also will air leakage into the float chamber.

To get our carburetter without any unknown variables must be the objective, if we are ever to study the effect of modifying the known and essential variables one at a time. The float case (Fig. 17) should have a small hole or air leakage; this hole allows the pressure of the atmosphere access to the liquid, and if necessary it can be provided with a tube to prevent any splashing. (This tube must take the overflow right away well clear of hot exhaust pipes for fear of fire.) The float might, and can, be made stiff and inexpansible within the ordinary barometric range.

*Gasoline Density.*—The question of the accurate height of the floats turns our attention to gasoline density, on which it depends. Usable gasoline varies from .722 to .680 specific gravity, at 15 degrees C., or nearly 6 per cent., so that within this range the float should be capable of easy and immediate adjustment by hand. An easy way to provide this is to permanently press the float slightly down into the liquid by a light spring, the milled head adjusting screw having graduations for fuels of different densities. Having done this for our chosen gasoline we still have a variation of density with temperature. Taking the lightest gasoline (.680) mentioned above, this on a winter's day alters in density from .70 to .66 (a new 6 per cent. variation) between the start and the time when the metal work under the bonnet becomes warm. Accordingly the float should be such as to close the gasoline feed firmly with the least density, *i.e.*, the warmest gasoline likely to be used.

This necessity militates against the pointed float of Fig. 16 because a 6 per cent. variation in density means that there will be a 6 per cent. variation in the volume of the float submerged, which will result in the case of a pointed float in a serious variation of the height of gasoline in the chamber; it might amount to 15 per cent. of the total height of the float. A possible cure for this trouble would be to design a float whose volume increased with the temperature, but an easier cure is to employ the spring (Fig. 17) already indicated, save that we must now make the spring blade of two dissimilar metals, so that the pressure of the spring would relieve itself when greater buoyancy was required of the float, *i.e.*, when the float case got warm.

*Road Shocks.*—We are in the habit of jolting a float to squirt gasoline out of the jet on standing, and we must provide against the accidental occurrence of the same effect with road jolting. This is easily done by making the clearances (Fig. 17) exceedingly minute, or introducing "baffle" plates, round which the liquid could only flow with much friction, so that it can only alter its level by jolting in a time much larger than the average period of road shock.

*Tube to the Spray.*—It is clearly best not to draw the gasoline from the bottom of the float case, where fine dust and green deposit may be found accumulated in spite of all filters, but from as high up the side of it as we dare. The root of this tube

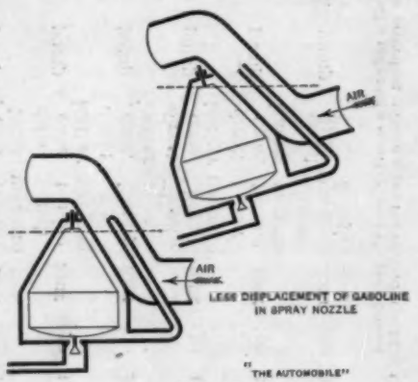



FIG. 16.

also should be of large diameter, so that the velocity may be very small, and, therefore, not likely to disturb the quiet settling of dirt at the bottom of the float case (a point is made of this in the Rekto carburetter, Fig. 6). From the float chamber to the jet the gasoline has to flow at widely varying speeds (the range being about five feet to one for the usual 10 to 1 engine speed range), and at widely varying temperatures. Furthermore, the flow required is sometimes steady and sometimes unsteady, taking place in distinct short pulses. When the pulses are at the rate of 40 per second on a 4-cylinder car at highest speed, the flow is practically steady, so that fric-

*From a paper read before the Automobile and Cycle Engineers Institute, Birmingham England.

tion in the tube and nozzle are important; but when the same car takes four draughts per second the inertia of the liquid comes prominently into play. This seems likely to complicate the law under which the liquid flows, so that we need not expect

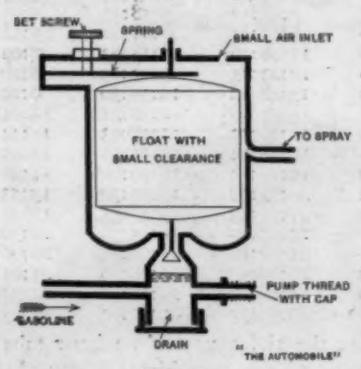



FIG. 17.

that the amount of liquid moved per stroke will bear any simple relationship to the amount of vacuum caused by that stroke. This law is even further complicated by the practical fact that either much or little liquid may be required both at the fast and at the slow speed of rotation.

Here is the backbone of the difficulty of carburetter design.

The law of gases under which the air moves through the pipes cannot be expressed in a simple formula, unless the pipes be very simple and the current steady; the laws of liquids, obviously, cannot be expressed by the same formula, because of the difference of physical state between liquids and gases, to which are superadded the complications due to fine capillary nozzles and the irregular variations in the viscosity of the liquid in question, under variations of temperature. Perhaps the best step to take under the circumstances is to devise by laboratory experiment some form of tube in which we can easily vary both the friction and the inertia, seeking for such a combination of these two as shall reduce the law of flow to any known simple law, such, for instance, as a "square root" proportionality between the volume of liquid discharged and the amount of pressure or "head" urging it. The head working upon the ordinary spray varies, perhaps, from 2 ounces to 20 ounces, and of the 20 ounces it would, perhaps, be fair, as representing the ordinary case, to consider that 16 ounces is expended after the liquid has left the tip of the nozzle, and the balance remains for overcoming the resistance in the pipes. This would account for the jet of liquid being about 3 feet high, if it were allowed to travel upwards unshattered.

What is required here are some experiments, and in this extremely adjustable carburetter which I am putting before you, I suggest having the tube long and of large bore, and introducing into it a rod which has a square thread screw on its surface (Fig. 18). The gasoline must go round and round in the path of the thread to reach the jet.

We can at will increase the length of path by pushing in the rod, and as evidently the length of the path may be too long or may be too short, there is some best position which this adjustment gives us. In any case the swilling of gasoline out of the jet, when the car lurches, is impeded by this arrangement, which further affords an easy way of clearing out the tube, as is done in some forms of tobacco pipes.

It is just conceivable, but most unlikely, that the retardation so introduced might, for some shape of thread, some length of path, some engine, and some one position of the throttle valve, just diminish the volume of gasoline at all speeds as much as the volume of incoming air was diminished, provided the temperature of air and gasoline was constant. This is a position adopted by that most ingenious carburetter, the "Sthenos."

We, however, must go further. We find that if the temperature of the gasoline increases, its viscosity diminishes, and therefore, the loss of head of the liquid by friction in the pipe diminishes also. Just as an indication of how important this change in the character of the liquid may be, I will quote you an experiment of Mr. Sorel, who found that gasoline having a normal density of .70 could be discharged at the temperatures and rates given in the following table when passing through the same capillary tube, in the same interval of time, under the same head of pressure—viz., 30 millimetres only:

| | | | |
|---|---|---|---|
| 5 deg. | C. | ... | 121.5 |
| 10 deg. | C. | ... | 123.5 |
| 15 deg. | C. | ... | 128.5 |
| 20 deg. | C. | ... | 131.5 |
| 30 deg. | C. | ... | 138.5 |
| 40 deg. | C. | ... | 150 |
| 50 deg. | C. | ... | 163 |

Actually 40 per cent. more liquid passes at the very reasonable temperature of 50 degrees C. than passes at what is by no means a very wintery temperature of 5 degrees C.

We must not allow such a trifle as that to baffle us, and we may be able to arrange

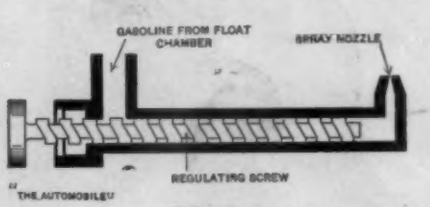



FIG. 18.

that the access of liquid to the spray shall be somewhat more closed by a small temperature valve, when the liquid is hot, than when it is cold. On the other hand, when the air is hot a somewhat less quantity of gasoline will be required per stroke, because for each degree absolute by which the air is hotter we shall require 1-273 times less gasoline, and it is not at all absurd to suppose that the air will vary by as much as 50 degrees C., on any one day, or 70 degrees C. between an extreme winter and an extreme summer condition. So we will require that this little thermometer valve controlling the liquid shall be opened by the difference in pull due to two thermometers, one of which is in the air duct and one in the gasoline duct.

Merely for the sake of making the matter concrete, I will suppose that a tapered needle is thrust down the jet to choke it, by a flat spring in the air path, made of zinc and copper, so turned that as the copper expands more than the zinc with rising temperatures the needle will be pushed lower down. The amount of temperature must be calibrated according to the air temperature law— $\frac{P\ V}{ABS:T} = K$. The corresponding spring, which is immersed in the petrol opens a separate gasoline valve, and must be calibrated according to a curve of flow and temperatures like that given by Mr. Sorel. This curve of tem-

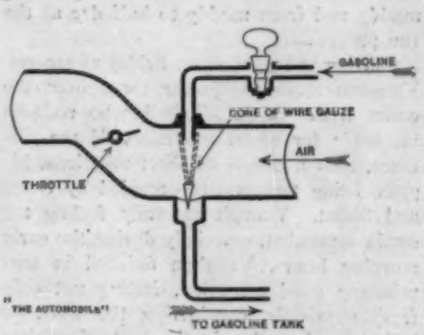



FIG. 19.

perature is, unfortunately, not the same for all kinds of gasoline.

If we are still driving at perfection in this direction, it yet remains to us to heat the gasoline in the float chamber and spray tube to a constant temperature, and thereby eliminate the necessity for this second adjustment. This may, perhaps, turn out to be considerably easier to do, even if we heated the gasoline by an exhaust bye-pass. All we have to do is to control the amount of hot water or hot exhaust gases by a thermostat. I should prefer using water rather than exhaust gases, because of the diminished chances of getting the thermostatic valve choked with impurities, such as soot.

*(To be continued.)*

---

From the passage of the Maryland automobile law in 1904 to the first of January, 1905, 654 automobile licenses were issued by the secretary of state of Maryland, and from January 1 to the present date, 237 licenses have been issued.

When the spark is advanced too far, retarding it has exactly the same effect as advancing it when too much retarded—that is, it increases the momentary efficiency of the explosions by igniting the charge at the most advantageous point in the stroke.

# Vaughan Lowers 1,000 Mile Track Record.

## Covers the Distance in Decauville Racer at Empire Track, New York, in 23 H. 33 M. 20 S.—Holds Record Trophy.

RUNNING with extraordinary regularity, the veteran 40-horsepower Decauville racing car, driven by Guy Vaughan, made a record run of a thousand miles in 23 hours 33 minutes 20 seconds, finishing at 1:08:20 Saturday afternoon, June 24, cutting under the best previous record for the distance, made by Wridgway in a 24-horsepower Peerless car, by 2 hours 16 minutes 41 seconds. The run, which was made on the Empire City track, at Yonkers, N. Y., differed from Wridgway's in that the Decauville motor was stopped when the car was stopped, while Wridgway kept his motor running continuously. Vaughan drove through several heavy showers during the early morning hours of Saturday, the condition of the track varying from dry to muddy and from muddy to half dry as the run progressed.

Starting at 1:35 P. M. on Friday afternoon Vaughan stuck to his car throughout the entire trial. L. A. Mitchell, who rode as mechanic for about 800 miles of the distance, took a couple of short vacations, his place being temporarily occupied by Swan and Shaut. Though naturally feeling the strain somewhat, especially during the early morning hours, Vaughan finished in surprisingly good condition, feeling not only fresh physically, considering the work he had done, but also in the best of spirits; he was ready to crack a joke at almost any time during the trial.

So far as the car was concerned, the preparations for the run were not extensive, consisting in the replacement of the thirty-five-gallon gasoline tank with one holding but fifteen gallons, thus reducing the weight on the rear tires; putting on a Warner autometer with a small electric light for use at night, and replacing the small lubricating oil tank with a large one.

Vaughan started in at a fast clip and cut under Wridgway's figures at such a rate that at the end of the first fifty miles the record had been cut 5 minutes 27 seconds, and at 500 miles Vaughan was 1 hour 46 minutes 52 seconds to the good. At six o'clock the kerosene vapor lamps disposed around the track were lighted; they gave a brilliant light, projected so as not to dazzle the eyes of the driver. These lamps were found very satisfactory, and by their aid a mile was made in 1:08:3-5.

Rain commenced to fall in a drizzle at about 2:30 Saturday morning, and gradually increased, forcing down the running time from about 1:17 to 1:30, and even slower as the rain grew heavier. As daylight commenced to appear the rain slackened slightly, but not altogether, and the track was so muddy that the greatest caution had to be observed in making the turns, especially at the clubhouse turn, where there was a veritable mudhole. As the day wore on, Vaughan, by close steering, succeeded in rolling down a fairly good track through the mud. After about 5:30 A. M. the rain ceased, the track commenced to dry out and the car was again let out, cutting down the time for each mile until the thousandth, completed at 1:08:20, clock time, was run in the fastest time of the trial—1:03:2-5.

After completing the thousand miles, Vaughan was instructed to go on and finish the twenty-four hours, which he did, covering in that time a distance of 1,015 5-8 miles.

Trouble with the Continental tires was conspicuously scarce, in vivid and welcome contrast to the endless succession of punctures that marked the former attempt of the Decauville to capture the thousand mile record on the same track. Out of a total time of 1 hour 44 minutes 4 seconds consumed in stops, the tire men state that but 15 minutes 14 seconds was due to tire repairs. Before the trial was commenced the precaution was taken to send men around the track in search of nails, glass or anything that could puncture a tire, with the result that several pounds of sharp-pointed objects were gathered, doubtless saving a repetition of the former tribulations. Punctures by a few nails not picked up caused most of the trouble, the only exception being the giving way of an inner tube on account of heat caused by the fast and continuous running. Two of the tires ran throughout the trial without being touched. The motor ran faultlessly, and seemed in as good condition at the end of the run as at the beginning. No stops were charged to it, though the carbureter required cleaning occasionally.

**VAUGHAN'S TIMES BY FIFTY-MILE PERIODS COMPARED WITH PREVIOUS RECORDS.**

| Miles | Packard Former Rec. | Peerless Total Time | Decauville Present Rec. |
|---|---|---|---|
| 50 | 1:15:52 | 1.04:04 | 58:37 |
| 100 | 2:48:08 | 2:09:44 | 1:56:39 |
| 150 | 4:27:34 | 3:35:25 | 3:05:38 |
| 200 | 6:02:31 | 4:43:04 | 4:03:56 |
| 250 | 7:41:12 | 5:58:36 | 5:01:08 |
| 300 | 9:36:43 | 7:04:40 | 5:58:52 |
| 350 | 11:08:36 | 8:18:43 | 7:09:58 |
| 400 | 12:29:33 | 9:25:19 | 8:20:09 |
| 450 | 13:48:22 | 10:59:56 | 9:20:21 |
| 500 | 15:05:28 | 12:20:34 | 10:24:42 |
| 550 | 16:29:52 | 13:52:03 | 11:44:55 |
| 600 | 17:44:34 | 15:17:15 | 12:49:07 |
| 650 | 19:11:53 | 16:50:00 | 14:26:47 |
| 700 | 20:27:19 | 18:09:59 | 15:53:35 |
| 750 | 21:54:53 | 19:43:55 | 17:27:10 |
| 800 | 23:23:10 | 20:55:36 | 18:32:44 |
| 850 | 24:52:56 | 22:21:56 | 20:06:46 |
| 900 | 26:30:53 | 23:28:36 | 21:21:37 |
| 950 | 28:16:10 | 24:36:28 | 22:33:16 |
| 1000 | 29:53:37 | 25:50:01 | 23:33:20 |

The officials who watched the run for the entire twenty-four hours were Charles G. Wridgway, jndge; E. H. Parkhurst and Louis R. Smith, timers; J. P. Holland, F. Wagner and Raymond Weaver, scorers. Wridgway was one of the first to congratulate young Guy Vaughan, and incidentally mentioned that the Peerless car would have another try at the record.

Vaughan's trial was for the Empire Thousand Mile Cup, offered by the Empire City Club as a trophy for record trials at this distance, cars of any class or power being eligible to compete. The cup will become the permanent property of the manufacturer winning it three times. The temporary holder may be challenged at any time.

GUY VAUGHAN, HOLDER AMERICAN 24-HOUR TRACK RECORD.

Vaughan was the first competitor for the cup.

The first American record for a thousand miles on a track was made in Detroit on August 7 and 8, 1904, by a Packard touring car, the object of the run being simply the demonstration of the reliability of the car. Wridgway broke this record at the Brighton Beach track, Coney Island, on May 5 and 6, driving a 24-horsepower Peerless car. Vaughan made an attempt to create a new record at the Empire track on May 30, 1905, but failed because of numerous punctures from nails on the track, and at the same time heavy rain made the track a sea of mud. The run just finished broke both previous records, as the accompanying table shows.

DOG'S-EYE VIEW OF GUY VAUGHAN IN THE REMARKABLE DECAUVILLE 40-H. P. RACER.

## AMERICAN CARS ACCEPTED.

The three American entries for the Gordon-Bennett race have finally been accepted officially by the Automobile Club of America, a recent dispatch from Clarence Gray Dinsmore advising the club that the two 50-horsepower Pope-Toledo racers that were shipped by mistake before their trial here have passed in France all the tests required and been approved by him as represesentative of the A. C. A. in Europe. The two cars are owned by Col. Albert A. Pope, of Hartford, and W. T. Muir, of Lexington, Ky., and will be driven by Herbert H. Lyttle and Charles Dingley.

Just before Dr. H. E. Thomas's Locomobile racer was shipped on June 15 it was taken out on Long Island near Great Neck and given a second and final test by Al. Poole, before William K. Vanderbilt, Jr., and officially accepted. Joseph Tracy, who will drive the car, sailed several days before the car was shipped, in order to familiarize himself with the Auvergne circuit.

**An engine** is said to be "square" when the bore of the cylinder and the stroke of the piston measure the same.

## FIRST A.A.A. RACE MEET.

### Two-Day Program for Morris Park on July 3-4—List of Events.

The American Automobile Association's first automobile track race meeting will be held at Morris Park, Westchester, New York City, on Monday and Tuesday, July 3 and 4. The star event of the two days' meet will be the contest between the teams representing the Automobile Club of America, and the Chicago Automobile Club for the Harold E. Thomas Interclub Challenge Trophy, which was won by the team from the A. C. A. at the recent Chicago race meet. In addition a number of interesting contests have been arranged, including an obstacle race and an unlimited pursuit race.

All members of the A. A. A., upon presentation of their me mbership cards, will be extended the privileges of the clubhouse on the days of the meet.

Following is a list of the events:

MONDAY, JULY 3.

Lightweight and Middleweight Novice Handicap (One lap, 1.39 miles).—For owners and cars that have never participated in the winning of a first prize on the track or road (except in hill climbing). Prizes, gold medal to first and silver medal to second.

Heavyweight Championship (Four laps, 5.56 miles).—Cars weighing 1,432 to 2,204 pounds. Prizes, championship shield to first and silver cup to second.

Tourists' Novelty Race (Three laps, 4.17 miles).—For fully equipped touring cars carrying driver and three passengers, cars to line up with dead engines; at starter's pistol, engines are to be started and operators and passengers mount to places; cars to be stopped and reloaded at completion of second lap, and in the finishing lap obstacles will be supplied in the judgment of the handicapping committee. Prizes, silver cups to first and second cars.

Pursuit Race, unlimited.—Five cars to participate, and these will be distributed around the track according to the judgment of the handicapping committee.

Diamond Cup Race (Four laps, 5.56 miles).—Free-for-all.

Bronx Handicap (Three laps, 4.17 miles).—Free-for-all. Prizes, silver cups to first and second cars.

First Heat Chicago Automobile Club vs. Automobile Club of America for Harold E. Thomas Interclub Trophy (Four laps, 5.56 miles).

TUESDAY, JULY 4.

Lightweight Championship (Two laps, 2.78 miles).—Open to cars weighing from 551 to 851 pounds. Prizes, championship shield to first and silver cup to second.

Middleweight Championship (Three laps, 4.17 miles).—For cars weighing 851 to 1,432 pounds. Prizes, championship shield to first and silver cup to second.

National Circuit Championship (Four laps, 5.56 miles).—Free-for-all. First prize, $150 cash or plate; second prize, $50 cash or plate.

Second Heat Chicago Automobile Club vs. Automobile Club of America for the Harold E. Thomas Interclub Trophy (Four laps, 5.56 miles).

Cracker Handicap (Three laps, 4.17 miles).—Free-for-all. Prizes, $75 silver cup to first, and $50 silver cup to second.

Time trials for all classes.

## HARMSWORTH TROPHY ENTRIES.

It is now practically assured that America will be represented in the international auto boat race for the Harmsworth Trophy, which will be held in the Bay of Arcachon, France, on September 11, next. Smith & Mabley, of New York, the builders of the boats, have entered through the Automobile Club of America the *Challenger*, owned by W. Gould Brokaw, and another boat, practically a duplicate of the *Challenger*, recently completed for E. R. Thomas, both of New York. The boats are of 150-horsepower each, and a little less than forty feet over all.

The Automobile Club of America will give the boats an official trial early in July, and, as the entries close on July 1, it is not probable that other American entries will be made.

The *Challenger*, it will be remembered, was the only American entry for the Harmsworth Trophy in 1904.

**It is said** that King Alfonso of Spain has taken a course of instruction in automobiling, and is now in a fair way to become a real royal chauffeur.

**The automobile has come** to stay and the horses might as well get used to it. This writer has a horse that is just a little scarey at the things, and when driving we had as soon meet Old Nick himself in the flesh and blood as to meet one of these "red devils," but they will have to come to it.—*Ames (Ia.) Times.*

# Diary of the Transcontinental Race.*

By PERCY F. MEGARGEL.

COTTONWOOD, MARTIN P. O., Idaho, June 16.—Misfortune seemed to attend *Old Steady* after leaving Rawlins, and her progress toward the Land of the Setting Sun depended solely upon the efforts of one man—the writer—and his continued good health. Poor Stanchfield collapsed with mountain fever at Diamondville on June 10, and we had to put him to bed in the Daly Hotel. He began to feel ill at Opal, but as there was no doctor there and no fit hotel accommodations, we kept on, Stanchfield riding on the baggage on the rear of the car, wrapped in all the rubber coats we had. When we reached Diamondville he could stand it no longer, and, after getting him to bed, I spent the rest of the day hunting up a doctor. I finally managed to catch one at Kemerer, ten miles distant, and brought him to Diamondville in *Old Steady*. He was one of those nervous little men filled with his own importance, and knowing it all at a glance. He looked "Bart" over, prescribed a hot bath, hot lemonade, plenty of blankets and no air in the room. Then he said his bill was $10, and wanted to know who was going to pay it. An automobilist is looked upon as an easy mark in the Far West, just as he is in other places.

Stanchfield has a bad attack of mountain fever (we are nearly 8,000 feet above sea level here)—aches in every bone and muscle, has a burning fever with intermittent cold chills, and was most miserable when I left him, to push on alone. The fever has not bothered me yet, but I shall breathe easier after passing Fossil, for from there down the altitude lessens with almost every mile.

After leaving Rawlins, where my last letter was written, on the morning of June 6, we had to return to that town and spend the second night there as a penalty for our own thoughtlessness. Ever since leaving New York, we had been using No. 4 Mobiloil for both cylinder and transmission, with excellent results, but we neglected to stop at the railroad station in Laramie for the supply shipped there, and, running short of oil, we bought a small quantity of so-called gas-engine oil at a store. We filled both the cylinder reservoir and the transmission. When we reached Rawlins we received a consignment of Mobiloil, and, unthinkingly, poured it in on top of the other. We pulled out of Rawlins the next morning at a good rate of speed, everything working finely, but when we had gone about five miles the car faltered and stopped. When we tried to start the engine we found the piston stuck, and with visions of a ruined cylinder and other complications we took off the cover of the crank-case. When the two oils mixed they had formed a paint-like solution that the heat of the cylinder transformed into a hardened, sticky gum, and as the piston of an Oldsmobile fits the cylinder within 3-1000 of an inch, the coating of gummed oil soon stuck the piston.

Well, I walked back five miles across the cactus pains to Rawlins, hired a team, and went back for *Old Steady*. We worked most of Tuesday night, and until 10 o'clock Wednesday morning cleaning out the engine. Gasoline, kerosene and lye had no effect, and it was not until we resorted to muriatic acid that the gum would dissolve. It was necessary to remove the body from the car and take the cylinder out. The tedious job was not rendered any more pleasant by the knowledge that Huss and Wigle were three and a half days ahead in *Old Scout*, and the end of the trip was less than two weeks off.

Stanchfield showed some ingenuity in fixing a piece of sheet-iron from the front axle of the car to the rear part of the radiator pipes to protect the radiator from the sage brush and greasewood bushes, which the car is obliged to straddle continually on the trail.

After leaving Rawlins, we struck into what is known as the Great American Desert—a stretch of sandy country in which absolutely nothing can grow except sage brush, greasewood and cactus. There were no ranches, cattle or horses for many miles westward, and, in fact, hardly a living thing but jackrabbits, prairie dogs and rattlesnakes. Water is very scarce there, and long lines of tank cars stand on the sidings of the Union Pacific, and when the water supply of one of the infrequent small towns along the railroad gives out these cars are sent to a neighboring town to borrow.

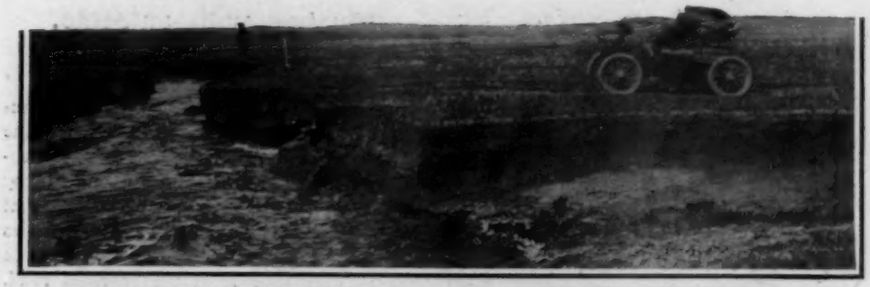
Despite the hard going, we got to Point of Rocks, Sweetwater county, at 9:30 p. m., having covered the 100 miles from Rawlins since 10.30 a. m. For the last twenty miles we had to resort to our sand tires to make any progress at all. Without them the rear wheels would sink to the axles in the soft white and red sand. The population was exceedingly sparse, the various sidings, all of which bear names, having not more than three inhabitants each, and the larger settlements a maximum of twenty-five. Our bunk Wednesday night was in the U. P. freight house. We had ham and eggs for supper—in fact, our meals at every stopping point for the last 400 miles had been ham and eggs. We got to Granger, in Sweetwater county, on June 8, just one month from the day we left New York on a trip we expected to accomplish in thirty days, and still we were 1,000 miles from Portland. Had the weather been at all favorable, I still think we could have made the run in one month.

Last Friday, June 9, we got caught in a storm such as occurs only in the Rocky Mountain districts. Suddenly the sky grew black, then we had thunder and lightning, followed by such a terrific hailstorm that both of us crawled under the car in the mud to save ourselves from the chunks of ice nearly two inches in diameter that descended in torrents. After the ground was covered about two inches deep with hail, it commenced to rain, and after every clap of thunder the amount of water coming down seemed to double in volume. We had discarded our tire chains for the sand tires to cross this section. We did the best we could with rope, but every little rivulet had been transformed into a raging mountain stream, and the first one we attempted to run engulfed *Old Steady* and pretty nearly swallowed up the crew. We half waded and half swam to shore, leaving the car with just the top of the seat above water. For some hours we waited for the storm to abate, but the longer we waited the higher the water rose.

Sighting a sheep ranch in the distance, we walked to it. At first the place appeared to be deserted. The house, a long, low log structure, chinked with mud, was occupied by pigs, chickens and lambs; the dooryard was one of the foulest smelling places I have ever been in, and everything about the place was filthy to an extent that


DR. C. C. FREEMAN, OF ROCK SPRINGS, WYO., MEETS "OLD STEADY" WITH A SISTER CAR.

*Continued from page 725, issue of June 15



CONFRONTED BY ONE OF THE DIFFICULTIES OF A TRANSCONTINENTAL TOUR.

one could hardly conceive. Eventually we found the owner, Lone John, in the barn with more pigs, chickens, sheep and a team of bronchos. He seemed glad to see us, as company is scarce in this part of the world, and immediately commenced to tell us his troubles, which were numerous. He was at war with several of his neighbors, and kept a loaded gun at hand at all times. He had just been released for cutting open the head of one of his neighbors with an axe, and he regretted the fact that he had not killed the man. Despite his grievances, he willingly threw the harness on his horses, and telling us where we would find the wagon, and to use his team as we saw fit, went out to round up his flock of about 500 sheep and half that number of lambs. We drove the bronchos down to our stranded machine, and, attaching a line, soon pulled it out of that creek, and through four others before we got it to the ranch.

This is the heart of the sheep country, and it is shearing time. At every railroad station there are tons of wool piled up in bags, awaiting shipment. Gasoline has taken another rise. While at Kemmerer I paid fifty cents a gallon; here at Cokeville it is sixty cents, and it is fortunate that the little runabout is economical of fuel.

According to the schedule I mapped out at Omaha, we were due at Portland on June 12, but when Stanchfield joined me at Soda Springs on that date we were still some 800 miles away, slowly plodding our way through an almost uninhabitable region, but keeping the Oregon Shore Line Railroad always within view.

It costs money to live out in this country. If you hire a doctor it will cost you an "X;" if you travel on the railroad it will cost five cents a mile, and the express charges on a sixty-cent can of oil, from Laramie, Wyoming, to Montpelier, cost us $2.70.

The lava mountains of Eastern Idaho seem to swarm with eagles and other large birds. To-day I counted at least twenty eagles, some of them so tame that they would sit on the ground not twenty paces from the road while *Old Steady* thundered past with its muffler wide open. There is a law protecting eagles, and the birds seem to know it.

The different altitudes did not affect me until nearing Soda Springs, when, after pumping up one of our tires, I suffered from a violent bleeding of the nose. The slightest exertion causes a person to pant violently, while harder work causes one not accustomed to the mountains to bleed at the nose, mouth and ears. The mountain peaks around us are all snow-capped, and every few miles I pass the remains of huge winter snowdrifts, which even now are many feet deep. The houses are few and far between, and are usually constructed of logs filled in between the cracks with mortar or dried mud. The roofs of the houses and stables are covered with long poles, straw and mud. They nearly all leak to some extent when it rains, but are effective in keeping off the sun's scorching rays.

The scenery along the route from Soda Springs to McCammon was grand. Massive rocks and high piles of lava greeted the eye on all sides, while the trail ran along through a narrow pass between overhanging mountain peaks. Snow covered the higher points, and I occasionally ran across a drift alongside the road. A number of sheep outfits, immigrant wagons and considerable cattle were passed. Irrigating ditches were frequently forded. Prices on all articles of commerce are high in this section, and the store houses carry everything from a paper of pins to a coffin. The storekeeper usually is the undertaker and hotel keeper, and on the side runs a saloon in which slot machines, faro and card games are an important factor in figuring up the day's profit.

I met my first group of Indians Tuesday. They were in two wagons, and rode up while I was at dinner. A big six-footer drove each wagon, while a number of squaws occupied the rear seats. Inquiry revealed the fact that there is a large Indian reservation in the town of Blackfoot, a few miles north of Pocatello, from which the wandering braves and squaws roam at large over that section of Idaho. They are considered perfectly harmless, but are the greatest thieves to be found on earth, and the man stealing the most is regarded as the bravest Indian.

We reached Pocatello Wednesday night. The run from McCammon was short but through a wild and mountainous region of the most picturesque description. Prospectors are at work on almost every mountain range, and some of them are reported to be "making good." Curious holes in the hillside, not much larger than badger or rabbit holes, show where gold seekers have dug in the ground in their frantic search for nature's treasures, while deserted villages, with many substantial houses, now the homes of small animals and snakes, mark the places where formerly men dug daily for gold. The rocks are mostly of a lava nature, and are very hard on pneumatic tires.

This entire section is watered and made fertile, that is, such farms as are fertile by means of irrigation. Companies of farmers or ranchers are formed, and each man assessed a certain sum, which he is allowed to work out with men and teams. In bringing these canals and ditches across the roads and trails no attempt is made to bridge them, and, as a consequence, it is always a case of ford. The water is generally swift and the bottom uncertain, making it rather treacherous fording for *Old Steady* with its eight-inch clearance.

We pulled into Cottonwood to-night at 9:30, having made an even hundred miles across the Idaho desert. We had many misgivings when we left Blackfoot this morning, as we were informed that for forty miles we would meet neither man, beast nor water. We, however, passed two immigrant wagons in the first forty miles, scared up a herd of antelope, got two shots at a mountain lion, killed an eight-foot rattle-snake, and saw prairie chickens, sage hens and jack rabbits on every hand.

Before I take up our desert travels, I want to narrate a little on the curious dress adopted by the women in the town of Moreland, a Mormon settlement, seven miles east of Blackfoot. As we pulled into the settlement we caught sight of a young woman of about twenty (at least Stanchfield so put her age, and he is an authority), attired in men's blue jean overalls. We thought it some school girl's prank and passed by, but at the next house we saw half a dozen women and they were likewise attired in men's overalls. It seems Moreland is a beet sugar town and every one works in the beet fields, especially the girls and women. Overalls have been found much more convenient in getting through barb wire fences and in getting down on the knees to weed the beet fields, so they have been adopted by the women of Moreland, and have been worn by them for years. Every women we saw in that settlement was thus attired.

After leaving Moreland we struck across the desert and saw no sign of cultivation until we struck Jim Murray's ranch, forty miles from Blackfoot, located at the foot of what is known as Big Butte. Here Jim lives with his wife and daughter, the nearest neighbor being some thirty-five miles away. The daughter, as fair a specimen of the western prairie girl as one would wish to meet, brought us out two glasses of rich creamy milk, while Mr. Murray offered us water for our machine, which we declined, as our tanks were still good for fifty miles.

This great desert, which extends from the Lost River at the north almost to the Snake River at the south, and from Blackfoot to Hailey, is pretty well stocked with wild

horses, wild cattle and in fact wild animals of all kinds.

We were shown the tracks of a she bear and two cubs at a muddy crossing some two miles below Cottonwood to-night, and have been informed that the buttes and the mountains in this section abound in bear of the silvertip species.

Cottonwood is the highest ranch in this section, as well as one of the most fertile. It is so surrounded by mountains that the Winter temperature, on the coldest day last Winter, was only eight degrees below zero. The altitude is 6,100 feet, and that of the mountains around it is about 7,200 feet. The ranch is unsurveyed, untaxed, and in addition to its rich farm land abounds with gold, silver, zinc, copper and lead.

*Old Steady* has ploughed along on sand, cinders and through lava beds all day. We have been surrounded by huge craters of extinct volcanoes, and sometimes for miles the road would lie over solid lava rocks almost as smooth as asphalt pavement. We had to keep our eyes wide open, however, as this solid rock roadway would be frequently split by huge fissures in the rock, any one of which would have wrecked *Old Steady* there and then.

Cottonwood, like most ranches hereabouts, is made up of about a dozen log buildings, the roofs of which are made of sticks, straw and earth, perfectly tight in a Summer's rain, but slightly leaky during a Winter's snow, when the warmth of the fires below has a tendency to keep the dirt roof soft and allow the snow to melt and leak through. The Drakes, like most of the Western people, always keep the latch string on the outside. Mrs. Drake prepared us an excellent supper upon our arrival, after which we swapped Eastern tales for stories of the wild West until bedtime.

## Huss Wins Race.

*Special Correspondence.*

PORTLAND, Ore., June 22.—In the midst of thousands of cheering spectators, Huss and Wigle of Detroit drove *Old Scout* through the streets of this city and into the grounds of the exposition at 1 o'clock yesterday, winning the $1,000 prize offered by the Olds Motor Works. The boys reached Lebanon, 100 miles west of here, Tuesday night, and were met at Oregon City yesterday foreman by an escort from the Portland Automobile Club.

On reaching the city they were given a lunch at the Portland Club, and at 2 o'clock attending the opening of the National Good Roads Convention, to which Huss is a delegate, having been appointed by Governor Warner of Michigan. Huss delivered to President H. S. Goode of the Lewis and Clark Exposition Co. the message which he had carried across the continent in a 7-horse-power runabout, from Melville E. Stone, manager of the Associated Press. The remarkable run over unknown roads was accomplished in forty-four days, and is the first automobile run ever made from the Atlantic to the Pacific coast.

Megargel and Stanchfield, driving *Old Steady*, are expected to arrive here Sunday. The Automobile Club gave a parade through the streets and exposition grounds to-night in honor of the event, and the boys are the heroes of the hour.

*Old Scout* is, to all appearances, none the worse for the hard knocks it has received, and on the run into the city covered one stretch of twenty-five miles in one hour flat.

## A Common-Sense Garage.

A private garage that possesses features of interest has just been completed in Newark, N. J., for H. N. Swift, of the Newark Beef Co. It is a one-story structure, 30 by 36 feet, built in a substantial manner of brick. The floor is of cement, with a cleaning pit, and the walls are wainscoted with glazed white tile. The building is painted white inside, above the tiling, and also on the outside. The interior is abundantly lighted from overhead by a large skylight. Thus it will be seen that the garage is fireproof, well lighted, and easy to keep clean. To the left of the main entrance, which is for cars, is a smaller door admitting to a reception or waiting room, 7 by 14 feet. This room has an open fireplace and is comfortable furnished with mission furniture. A door leads from this room into the garage proper, which will accommodate five cars without undue crowding. Electric lights have been installed, there is running water for washing the cars, and, in addition to the repair pit in the floor, there is a tool bench with the necessary tools for lighter repair work. Four White cars are to be housed in this garage, belonging, respectively, to H. N. Swift, R. S. Coryell, Dr. Seidler, and James Bathgate. The total cost of the building and its fittings was about $3,000.

## Hunting with an Auto.

*Special Correspondence.*

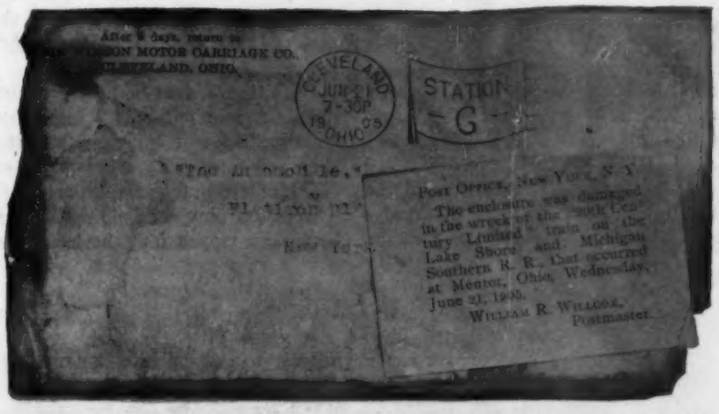
SAN FRANCISCO, June 20.—The amount of open country in California and the proximity to the highways of sections where game abounds offers a field for combined automobiling and hunting not equalled in any other state in the Union. It is a fact that in many of the northern and central counties in the state deer can frequently be seen within easy shot from the traveled road, while the contour of the country is such that a light car can be run practically at will in a game-frequented section. Small game, such as rabbits and quail, can be hunted easily in many districts in automobiles. F. Worthington Butts had his 12-horsepower Franklin runabout out recently to show what might be done in the way of game hunting with an automobile. The experiment was so successful that Mr. Butts is contemplating a trip into Lake county soon, after deer.

## Michigan Auto 'Bus Line.

One of the greatest fields of usefulness for the commercial automobile undoubtedly will be in interurban passenger and freight traffic between cities and villages that are not connected by steam or electric railroads. There has been for several years a constant and steadily growing demand for reliable and economical automobile stages and 'buses for such work, and the effort to fill this want, together with the demand for gasoline delivery wagons and trucks, is just now furnishing the greatest development in the industry.

A typical example of one of these country stage lines is the line now in operation between Chelsea and Manchester, located in Southern Michigan, about twelve miles apart. The route was established to furnish a quick outlet for the Manchester peo-

BRICK AND TILE PRIVATE GARAGE BUILT FOR H. N. SWIFT OF NEWARK.




ENVELOPE OF LETTER RECEIVED FROM WINTON COMPANY DAMAGED IN RECENT WRECK OF TWENTIETH CENTURY LIMITED AT MENTOR, OHIO.

ple, who can now reach the Michigan Central Railroad, and the Detroit, Ypsilanti, Ann Arbor and Jackson Electric Railway by going to Chelsea. The traffic conditions of the town did not warrant the establishment of a branch of the electric line, but the automobile 'bus line gives an efficient and satisfactory connection with both the steam and electric roads. Commercial travelers who in the past have been obliged to lose a day in "making" Manchester, can now get in and out of the town with no loss of time. A very considerable portion of the patronage of the line is from commercial travelers. The 'bus line is a wonderful feeder for the electric line. It is estimated that at the present time the average is from ten to twelve passengers per day. The electric line management is encouraging the 'bus line by liberal advertising, both in its waiting-room and in its cars.

The line has paid operating expenses from the start, and while only one 'bus is now running, it is anticipated that another machine will have to be put on at an early date. Two round trips are ordinarily made each day, but on Saturday three and on Sunday four are necessary to meet the demands. Running time has been arranged so that connection can be made with the trains and trolley cars at Chelsea and the railroad at Manchester. The car used is an Oldsmobile ten-passenger wagonette, which has given very satisfactory service, making the trips regularly and with only slight variation in time.

Companies are being formed in many parts of Michigan to operate 'bus lines with this machine. In addition to stage line work, machines are being bought for regular service over city routes. At Traverse City, Mich., a town of 11,000 inhabitants, a company has been organized to put on seven of these machines. Four will operate on street routes, giving service about every fifteen minutes. Two 'buses will run from Traverse City to Old Mission, a town about twenty miles north on the Peninsula, one of the most famous fruit regions in the state. Two cars will be used for hauling freight, fruit, etc., while another will be used for special charter, or to substitute on any of the regular routes.

## ST. PAUL ROUTE INSPECTED.

### Road Signs Posted and Itinerary Named —Hotel Accommodations Arranged.

*Special Correspondence.*

ST. PAUL, June 24.—Everything is ready for the entertainment of the Chicago-St. Paul tourists. The route between the two cities has been inspected by a party from Chicago, consisting of N. H. Van Sicklen, Robert W. Spangler, secretary of the Chicago Automobile Club; W. E. Huey, Charles Kempton and Oscar Pennamon, all of Chicago.

The party made a trip in a 16-horsepower Knox, leaving Chicago at 2:30 o'clock Thursday afternoon, June 15, and reached St. Paul at 11:30 o'clock Tuesday morning, June 20. Owing to the excessive rain that prevailed during the trip, the last few miles from Faribault to St. Paul were made by train.

During the inspection trip arrangements were made for hotel accommodations along the route, and signs posted every few miles. These signs are painted in large black letters on a green background, reading, "To St. Paul." The very best route possible was selected, and if there is no more rain the roads should be in excellent condition for touring.

The itinerary decided on by the inspection party is as follows:

Section 1 of the Chicago-St. Paul division will start from the Chicago Automobile Club's house at 8 a.m., June 30, arriving at Rockford in the evening, where a reception will be held. The first day's run is ninety-three miles. The second day's run will be to Dubuque, Ia., 105 miles, and on the third day to St. Charles, Ia., 111 miles. The Commercial Club of St. Charles will entertain the party July 2, and the headquarters will be at the Hildreth Hotel. The fourth day's run will be to Austin, Minn., by way of Floyd, Osage, St. Angers and Lyle, Minn. The headquarters at Austin will be at the Fox Hotel, where an entertainment is planned.

In order that the lighter cars may arrive in St. Paul on the night of July 3, permission has been granted whereby the cars may proceed as far as Owatonna. An early start will be made from Austin on the morning of July 4, and all are scheduled to arrive in St. Paul at 3 o'clock in the afternoon.

The second section of the Chicago division will start from the Chcago automobile club house early on July 1, and will join the main division at Faribault. The third division, consisting of a score or more of manufacturers, stock cars, will leave Chicago at noon, July 3.

---

**The auto excursion** given last night by the ladies of the June division of the First Presbyterian church was a financial sucess. It is estimated that more than 400 tickets were sold. About twenty autos carried the people, and everybody had a fine time.—*Marion (Ind.), Tribune*

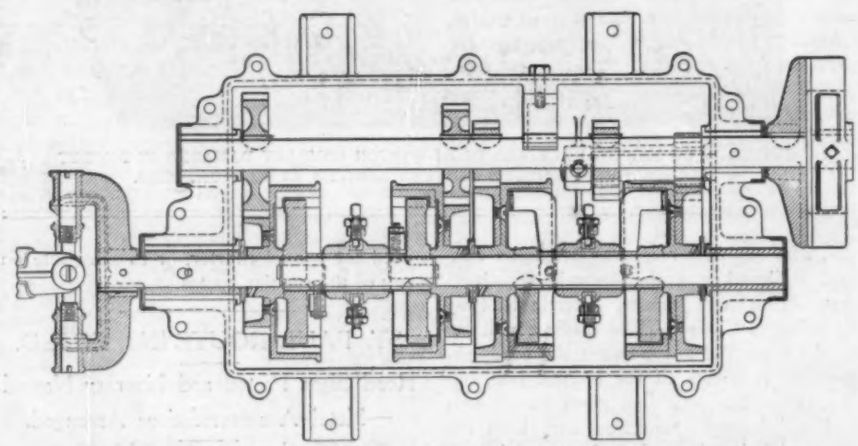
OLDS' TEN-PASSENGER WAGONETTE LEAVING MANCHESTER RAILROAD STATION FOR CHELSEA, MICHIGAN.

# Pope-Tribune 12-H.P. Light Touring Car.

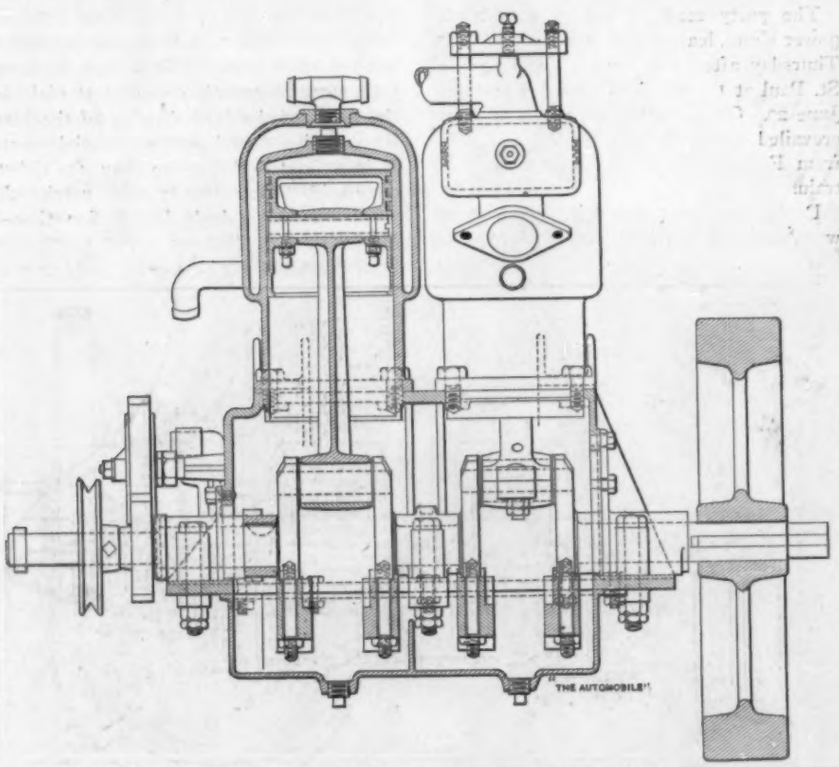
THERE is a pronounced demand in the automobile market for a car that, while moderate in price, inexpensive to maintain and easy to operate, shall possess most of the characteristic features of the modern high-powered French type car. It must be a side entrance car with body of attractive design, carrying four persons comfortably and five at a pinch; it must have an up-to-date hood in front with the motor located under it; it must have three forward speeds, and so on. To meet this demand the Pope Manufacturing Co., of Hartford, Conn., has brought out the Pope-Tribune Model IV, a car fulfilling these requirements and selling for well under a thousand dollars. It has a two-cylinder vertical motor of 12-horsepower under a hood of the Mercedes form; drives through an individual clutch transmission giving three forward speeds and one reverse, all controlled by a single lever; and employs a propeller shaft and bevel gear drive to the live rear axle.

Though the motor is rated at 12-horsepower only, this power is developed at 850 motor revolutions a minute, and the motor is capable of being run at a considerably greater speed, the power at maximum speed being nearly 15-horsepower. The cylinders are cast separately, with integral heads and water jackets, and the valves are all on the same side, the inlet valves being above the exhaust valves, and functioning automatically; both valves may be removed through the opening provided for the purpose above the inlet valve. The yoke that holds down the cover of this opening is simple and effective, and is very easily removed and replaced. The ends of the yoke are forked and are slipped under nuts on the studs, one on each side, which hold the yoke in place. The opening in one end of the yoke extends further toward the center than the other; and when it is desired to remove the yoke, the central set screw, which bears on the top of the cover, is loosened and the yoke moved endwise until the end with the short opening is clear of its stud, when the yoke may be swung around and the cover removed, the whole operation only requiring a few seconds.

Pistons are four and a half inches in diameter, four and a half inches long, and have a stroke of four and a half inches; they are fitted with three rings each, located in separate grooves near the top. The piston pins are held securely in place by screws tapped into the bosses from below, the long ends of the screws being plain and passing through holes in the pin; lock nuts hold the screws fast. The piston pin is three-quarters of an inch in diameter and the connecting rod bearing on the pin is 2 3-8 inches long. The connecting rod is a steel forging of ribbed section, and has an adjustable crank-pin bearing 2 5-8 inches long and 1 1-2 inches in diameter; the main bearings of the crank-shaft are also 1 1-2 inches in diameter and are three in number, there being a bearing between the two cranks.



PLAN VIEW IN SECTION OF INDIVIDUAL CLUTCH THREE-SPEED TRANSMISSION.




TWIN CYLINDER 12-HORSEPOWER POPE-TRIBUNE ENGINE, SHOWING INTERIOR OF FRONT CYLINDER AND CRANKCASE.

The main bearings at the ends are 3 inches long and the central bearing 2 1-2 inches long. Cranks are set together so that the pistons rise and fall simultaneously, and an explosion occurs at every revolution. When keys are used they are made on the Woodruff system—that is, the key is formed like half of a disk set into the shaft edgeswise, with the curved edge down. The crankcase is partitioned in the middle so that each crank-pin is lubricated independently of the other by splash in its own compartment, obviating the risk of running one pin dry while flooding the other when the car is on a stiff grade. A sight feed lubricator is attached to each cylinder. Ignition is by jump spark.

The cooling system contains a total of 2 3-4 gallons of water, kept in circulation by a gear-driven rotary pump driven from the cam-shaft; the radiator is a Whitlock cellular and will keep the engine cooled for about 300 miles on a single filling of water. A five-bladed fan mounted behind the radiator is driven by belt from a pulley on the crank-shaft.

There is no fly-wheel clutch, the drive

being direct from the motor into the transmission gear through a universal joint between the motor shaft and first transmission shaft. The transmission gear is of the individual clutch type, giving three forward speeds and a reverse. A separate clutch, of the internal expanding type, is provided for each speed, and the drive is always through one pair of gears. Gears and clutch members are keyed to their shafts by Woodruff keys. The entire transmission is, of course, encased and runs in oil; the bearings are of cast iron, and are long and large. Access to the gearing may be had by a cover on the top of the case, held in place by springs on the same principle as the springs used on a photographic printing frame. Gears are all of one-inch face, and are calculated to withstand greater strain than they are ever likely to be subjected to in actual use on the road.

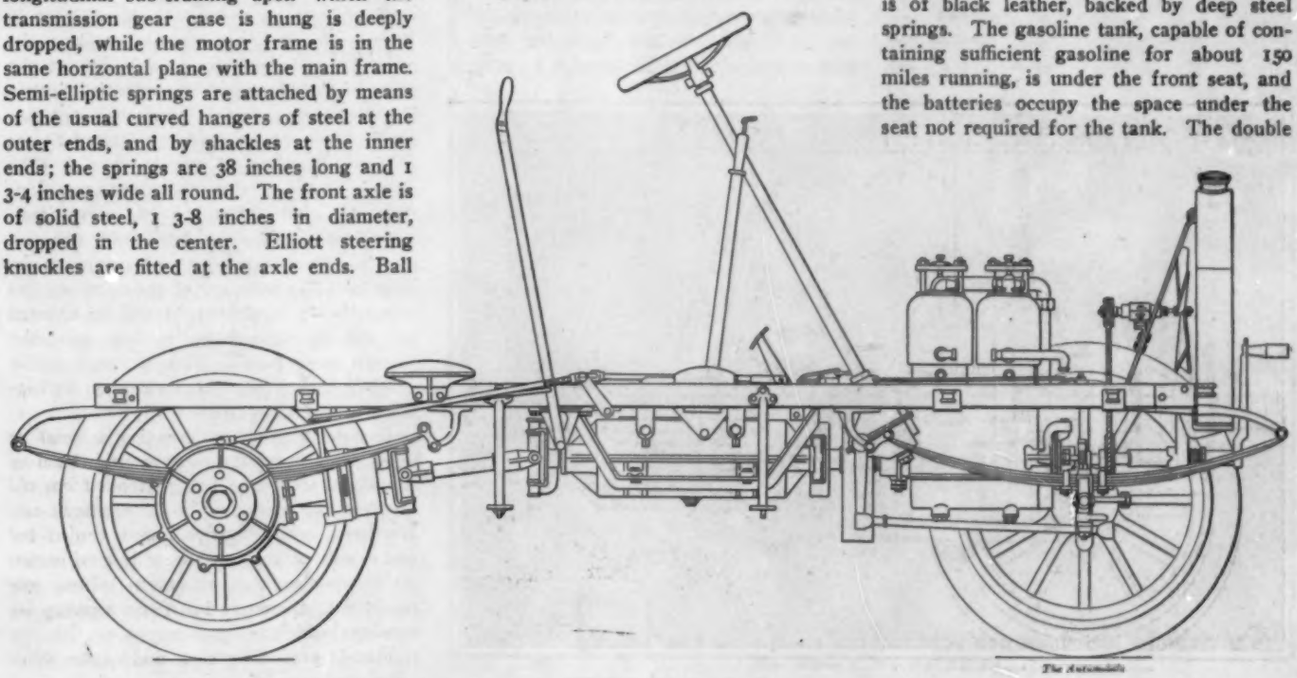
The propeller shaft, reaching from the rear end of the second transmission shaft to the bevel gear shaft, is very short and strong; the angle at which it lies is provided for by two large universal joints, one at each end. The bevel pinion shaft carries a large brake of the internal expanding type; this brake is operated by a side lever and is for emergency use, the service brakes, operated by pedal, being on the hubs; these also are of the internal expanding type. The bevel driving gears run, as is usual, in an oil-tight casing, and drive the road wheels through live shafts passing through the tubular steel axle. Heavy steel keys secure the wheels to the driving shafts, and ornamental bronze hub caps serve to keep out the dust and add a finish. Spur differential gearing is fitted.

Angle steel is used throughout the framing, and all joints are hot riveted; the longitudinal sub-framing upon which the transmission gear case is hung is deeply dropped, while the motor frame is in the same horizontal plane with the main frame. Semi-elliptic springs are attached by means of the usual curved hangers of steel at the outer ends, and by shackles at the inner ends; the springs are 38 inches long and 1 3-4 inches wide all round. The front axle is of solid steel, 1 3-8 inches in diameter, dropped in the center. Elliott steering knuckles are fitted at the axle ends. Ball bearings are used on the road wheels. The tires are thirty inches by 3 1-2 inches, detachable.

POPE-TRIBUNE LIGHT TOURING CAR, FITTED WITH CAPE CART TOP.

Steering gear is a screw and nut arrangement and is irreversible, and the steering wheel column is fixed; ignition and throttle levers work on notched sectors under the steering wheel. The control of the car is simple, there being but one pedal, controlling the hub brakes, and two levers, the change speed lever and the emergency brake lever. There are also the ignition and throttle handles.

The body is of bent wood, with side entrances, and has divided front seats; the normal carrying capacity is four persons, though another passenger can be accommodated if necessary. Stiffness and neatness are gained by setting the body sills in the angles of the main framing. Upholstering is of black leather, backed by deep steel springs. The gasoline tank, capable of containing sufficient gasoline for about 150 miles running, is under the front seat, and the batteries occupy the space under the seat not required for the tank. The double



PROFILE DRAWING OF CHASSIS OF POPE-TRIBUNE TWIN CYLINDER LIGHT TOURING CAR, SHOWING SHAFT DRIVE

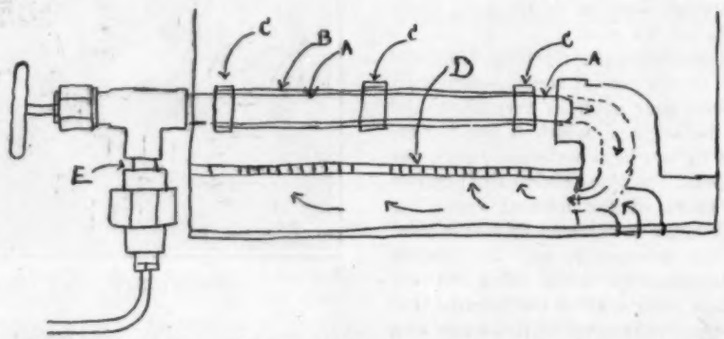
coil is carried on the dashboard. Under the rear seat there is ample space for tools and supplies. The wheelbase is 82 inches and the tread standard; road clearance, 7 1-2 inches; the car weighs about 1,650 pounds.

The Pope Tribune model IV is built at the Hagerstown, Md., factory of the Pope Manufacturing Co., under the supervision of Harold L. Pope, manager.

## Uses Kerosene Burner.

One of the ambitions of many of the automobilists who pin their faith to the steam car is to have a satisfactory kerosene burner which will start as readily and burn as freely as a gasoline burner. The advantages of such a burner are manifold; in the first place, kerosene is a cheaper fuel than gasoline and is more easily obtained; it contains more heat units than gasoline, bulk for bulk; and it is not subject to the rapid evaporation which not only causes gasoline to waste when left uncovered, but also increases largely the danger of fire in case of a leak or overflow. Manufacturers have been busy on the problem, and considerable success has been attained by a few, though a great deal depends on the careful and correct adjustment of the burner. One of the difficulties frequently experienced is the carbonization of the fuel; and this was the trouble that was met by George G. Babcock, of Portland, Me., by a simple little plan that has greatly increased the value of his burner. The burner was a good one, using kerosene, and was satisfactory in all respects except one; that was that after running for from thirty to forty hours it was invariably necessary to remove the pilot light generating tube and clean out the carbon deposit with which it would become clogged, and which would, if not prevented, stop it up and seriously interfere with the operation of the burner. Mr. Babcock believed that the trouble was due to the intense heat to which the tube was exposed, and tried the experiment of surrounding the tube with asbestos to shield it from the direct action of the flames. The sketch reproduced herewith shows how this was done. The pilot light generator tube, *A*, was covered with a single thickness of asbestos paper, *B*, which was wrapped around once and the lapping edges gummed to hold it while metal bands, *C C C*, were put on to secure it permanently. As these bands would very soon have been burned through by the heat of the pilot light burner, *D*, holes in the latter were stopped up directly under the bands, thus saving them from direct contact with the flames. Upon trying the machine with the new wrinkle applied, it was found that the trouble from carbonization was so far avoided that cleaning was only necessary after having operated the burner for more than a hundred hours. A strainer placed in the fuel pipe line also contributed to the general good, keeping dirt out of the burner.

The kerosene burner is started in the ordinary way, by using a torch of asbestos wicking soaked in kerosene, placed under the pilot light, the gas fire being started with a match when the generator becomes sufficiently hot to work properly. A hundred pounds of steam can be raised in less than five minutes after applying the match, and has been raised in three and a half minutes. There is only a very slight odor from the burner, and that is only noticeable when the car is standing. On the road an average of thirteen or fourteen miles can be covered with the consumption of a gallon of kerosene, which is a much better mileage than can be obtained with gasoline under ordinary circumstances. No difficulty is experienced in maintaining any desired steam pressure. The application of the asbestos protector has made no difference in the amount of fuel used, this remaining the same as before. Mr. Babcock states that a quart of kerosene will keep the pilot light burning for ten or twelve hours. He has found that the kerosene burner possesses all the good points of the gasoline burner, plus the advantages gained by the use of kerosene, and does not introduce disadvantages not possessed by the gasoline burner.




[SKETCH OF GEORGE G. BABCOCK'S PROTECTED PILOT LIGHT GENERATOR TUBE.

GEORGE G. BABCOCK'S STEAM CAR FITTED WITH KEROSENE BURNER.

**Electric cabs** are to be introduced in Buenos Ayres, Argentina, to replace the 3,000 horsedrawn cabs now in use, if the plans of the German Transatlantic Electric Company are successfully worked out, according to a report made by United States Minister Beaupre, of Buenos Ayres. The electric company with the long name controls the electric lighting and street railway plants of Buenos Ayres and suburbs, and has enormous electrical power at its disposal. The manager of the company has stated that a hundred cabs will be ordered by way of experiment, a light landaulet pattern being considered best suited to the climatic and other conditions, as well as being less of a departure from standard carriage styles than the more radical automobile types. The Americal type of electric vehicle is considered too heavy, being intended for cold weather use, according to Manager Mauro Herlitzka, who, however, is unprejudiced and would willingly purchase in any market which promised the best results. The country is flat; there are no roads suitable for touring; and driving, confined to the city streets, is preferably slow and of the "dignified and stately" variety.

# Letter Box

## Crating a Car and Shipping to Europe.

*Editor* THE AUTOMOBILE:

[219].—I am thinking of making a trip to England and France in the fall with my auto, and wish to get posted.

What is the weather in England and France in October, November and December?

What would be the best port to land at in England?

How would I proceed to get my automobile shipped, and what is the rate on a Packard Model N, 1905, car? Would there be any duties for entrance, and what would be the fare for ourselves?

C. C. W.

*Waterbury, Vt.*

---

The weather in England and France is likely to be fine in October and changeable in the later months of the year, with more or less rain and, in England, frequently snow in December. Warm clothes and waterproofs will be a necessity. Although the thermometer does not fall very low, any person accustomed to the clear, cold weather of your section is likely to feel very chilly in the damp and cold winds abroad, and the arrangements for heating houses over there are wretchedly inadequate when compared with American methods.

Liverpool would probably be the best port in England at which to land. Both the Cunard and White Star steamship lines sail between New York and Liverpool. England is a free-trade country and no duty will be charged upon the arrival of your car there. It should be remembered that in England the rules of the road are just the reverse of ours—that is, to keep to the left when passing other vehicles, and to pass on the right of vehicles overtaken. Before driving on the public roads it is necessary to obtain a license, for which you will have to pass an examination as to ability to operate a car. This can be obtained from the local authorities.

Leaving England, go by way of Dover and the English Channel boats to Calais, France. It will not be necessary to have the car crated for this short trip. Upon entering France you will be required to make a deposit of fifty francs ($10) for every 100 kilograms (202.4 pounds) weight of your car. This is the regular import duty, but a deposit receipt will be given you, valid for six months, and upon its presentation at any frontier customs house as you leave the country your deposit will be refunded, only small stamp taxes being required in each case. A driving license is required in France. It will save you considerable annoyance to post yourself fully regarding the French regulations while in London.

You can save yourself much annoyance in connection with the actual details of shipping the car to Europe by applying to any of the steamship companies operating from the port at which you wish to land, who will refer you to responsible custom-house brokers who will attend to the shipment for you. If, however, you prefer to attend to these details personally, you should first make application to the steamship company for a permit to ship, and upon delivery of the car at the company's pier you will receive the pier agent's receipt. Next, a visit to the custom-house is necessary, where you will make affidavit as to the make, description and value of the car, and will be issued a shipper's manifest. Upon surendering this, accompanied by the pier agent's receipt, at the freight offices of the company, you will be given in return a through bill of lading, upon presentation of which at the port of destination the car will be delivered.

In order to avoid paying duty on the car upon its re-entry into the United States, it will be necessary to make declaration before the United States consul at the port of reshipment to the effect that the automobile is of American manufacture, was exported from the United States, and that it has not been increased in value or improved in condition by any process of manufacture or other means. A like declaration will have to be made before the collector of the port upon arrival in this country. These conditions apply only to machines of American manufacture.

For a transatlantic trip it is best to have the box securely boxed or crated, preferably building the frame of the box of well seasoned timber of about 2 by 6 inches, and inclosing this with 3-4 or 7-8 inch spruce or other similar boards. An inner frame should be made upon which to rest the frame work and axles of the machine, and this should be sufficiently elevated so that when the car is jacked up and placed upon it, the wheels will clear the floor. The outer frame should be large enough to take in the car entire, and be well braced in all directions. Brace the car securely so that it will not shift about in the box owing to continual rolling of the vessel. It will not be necessary to remove the wheels.

The approximate cost of crating an automobile after this method in New York is $75. If the crate is put together with bolts and nuts, so that it can be knocked down and set up at will, an extra charge of $25 or $30 will be added. It would probably be much cheaper to crate your machine in your own town, and ship it on railroad flat car to the port of sailing. Upon arrival in Liverpool, the box can be left with the shipping agents until required for reshipment, as it will not be needed in crossing the English Channel.

The freight rate for an ordinary touring car is approximately 15 shillings per cubic foot, the charges being based on cubic space occupied and not on weight.

The fare for first-class steamship passage from New York to Liverpool for the fall months, beginning October 1, will be from $75 to $175 per person, depending upon the steamer selected, location of the stateroom and number of persons occupying such room.

---

## Battery vs. Magneto Ignition.

*Editor* THE AUTOMOBILE:

[220].—I am building a four-cylinder motor, and would like to know what system of jump spark ignition is best to use, magneto or four coils and battery? Will a magneto give much trouble? C. A. R.

*Little Falls, N. Y.*

---

Either system will give satisfaction if the various parts are adapted to each other and work in harmony. A first-class magneto should not give much trouble if properly installed and cared for; magnetos are increasing in favor and are much better than they used to be.

---

## Kansas City in Transition Stage.

*Editor* THE AUTOMOBILE.

[221].—Kansas City now has 282 automobiles and an automobile club of more than 100 members. Our county, outside of the city, has 250 miles of macadam roads, which wind through wooded dales and over hills out into the open prairie.

ENJOYING GOOD ROADS NEAR KANSAS CITY.

We have a very extensive park and boulevard system and an active police force looking for scorchers. We are now going through a transitory stage of impulsive legislation. We can convince the horse, and we hope in time to convert the driver.

C. F. M.

*Kansas City, Mo.*

---

## The Track Mile Record.

*Editor* THE AUTOMOBILE:

[222].—The mile record of 52 4-5 seconds, made at Morris Park track May 20 (now 52 1-5) by Louis Chevrolet in a 90 horsepower Fiat, has been heralded throughout the country as breaking Oldfield's mile record of 53 seconds, made at Los Angeles December 21, 1904. The fact is that the new record does not supplant the old one for the reason that Morris Park track for the mile

has only *one turn*, while the Los Angeles track is an ordinary track with *two turns*.

It is worthy of note that the best record for five miles at Morris Park track was 5:31 as against Oldfield's five-mile record of 4:29.

PEERLESS MOTOR CAR CO.,
per E. B. Brown.

*Cleveland, O.*

---

This letter was received on the day of publication of the issue of June 15, in which will be found a discussion of the question of records on page 734. The stand taken by our correspondent is quite correct.

## Holds Porto Rico Record.

*Editor* THE AUTOMOBILE:

[223].—I have read in a recent newspaper article that the record in Porto Rico, from San Juan to Ponce, is held by the Chief of Police Knox car. This statement is incorrect, as on April 4 my Franklin car covered the distance in four hours and a quarter. At the time, it was driven by my chauffeur, H. B. Hodges. The same car has on several other occasions made the trip under five hours. While the distance is only 130 kilometers, the road rises to an altitude of 2,000 feet, and has many exceedingly difficult turns.

A. H. FRAZIER,
Private Secretary,
*Executive House, Porto Rico.*

## About Locomobile Ignition.

*Editor* THE AUTOMOBILE:

[224].—We desire to call your attention to an inquiry in your Letter Box, page 702, issue June 8, entitled "Jump Spark as an Auxiliary."

The correspondent inquires if the jump spark system can be used on the 1905 Locomobile motors as an auxiliary. For your information, and for that of your readers, we wish to state that we do not contemplate any such change, and under no circumstances would we make such an alteration at the factory, as we are not in a position to do it even if we should so desire.

In looking into the matter we find that there was a case where a Locomobile car fitted with make and break system of ignition had the jump spark added as well, but this was not done at the factory, and we understand was done by one of our agents as a matter of personal accommodation to a friend.

LOCOMOBILE CO. OF AMERICA,
J. A. Kingman.

*Bridgeport, Conn.*

---

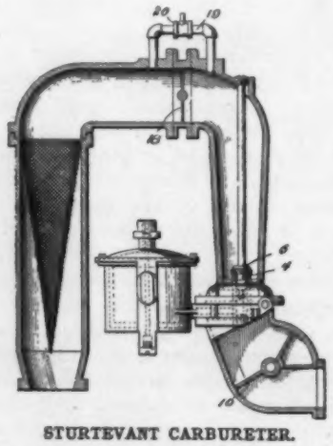
**The automobile** license ordinance is now effective, and every Lima owner of a choo-choo must put up a plunker and get a tag with a number on it big enough for Sergeant Bacome to see two blocks away. Mr. C. F. Lufkin was first under the wire and secured tag No. 1, and six others have come to the scratch and obtained the essential authority to burn gasoline on the streets. —*Lima (O.) News.*

# Patents

## Carbureter.

No. 792,628.—T. L. Sturtevant, of Quincy, and T. J. Sturtevant, of Wellesley, Mass.

A carbureter intended to be automatic and comprising a float chamber, spray nozzle, and mixing tube, a throttle, and a spring-controlled intake valve, which is sucked open more or less according to the speed of the motor. The spray nozzle is of annular conical shape, and is formed by the parts *4* and *6*, of which the latter can be screwed up or down for adjustment. The throttle valve is indicated by *18*, and the automatic intake by *10*. An external spring (not shown) keeps this valve normally closed. The gauze cone is designed to complete



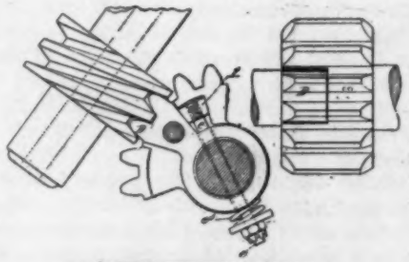
STURTEVANT CARBURETER.

the mechanism of the air and gasoline, and the pipes *19* and *20* are provided for a by-pass to permit the engine to run at a minimum speed with the throttle closed.

## Steering Gear.

No. 792,964.—E. D. Cahen, of Paris, France.

A device automatically taking up wear in the teeth of the worm segment of a worm steering gear. Most of this wear comes in the middle of the segment, which is the portion most used. The teeth in this segment are split, and one-half, *D*, are pivoted



CAHEN STEERING GEAR.

with relation to the other half, and are acted upon by a wedge *L*, pressed against them by a bolt *e* and compression spring $e^3$. The effect of this is to bring pressure constantly against both faces of the teeth of the worm, so long as contact is made with the teeth *D*, thus preventing backlash.

## Vaporizer.

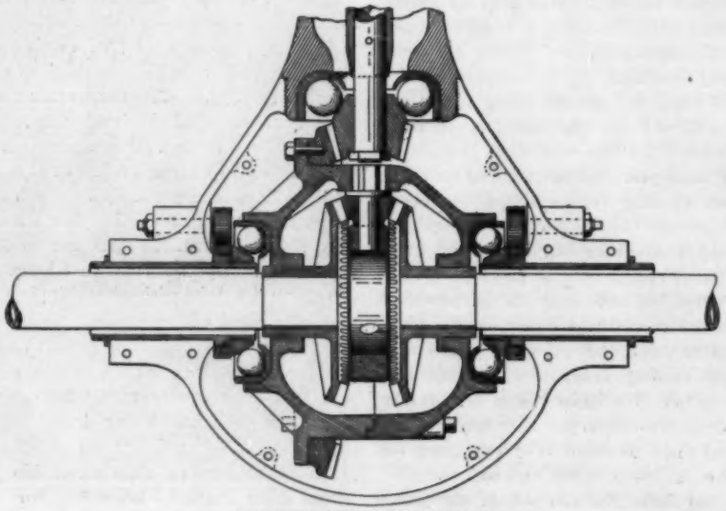
No. 792,158.—R. E. Olds, of Detroit, Mich.

The vaporizing system used in the Oldsmobile three years ago, consisting of a diaphragm pump, overflow constant level chamber, and continuous stream of gasoline falling across the horizontal air pipe, guided by a sort of gauze funnel.

## Bevel Gear Drive.

No. 792,690.—A. P. Brush, of Detroit, Mich.

A construction of the bevel driving gear and differential of the general form shown in the drawing. The bevel pinion shaft runs in two ball bearings, only one of which is shown, and the driven bevel gear is attached to a large split casing which surrounds the differential and runs on adjustable ball bearings. The main gears of the differential are aligned partly by their



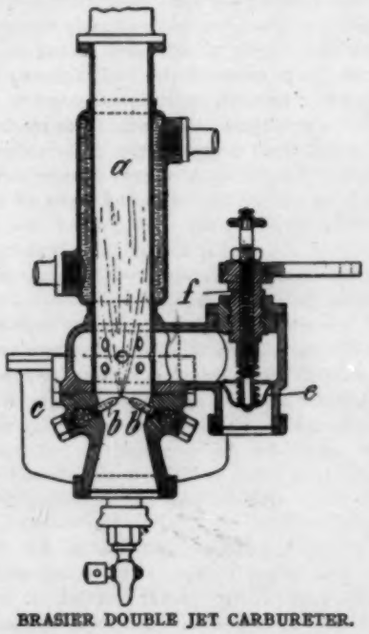
BRUSH BEVEL GEAR DRIVE.

hubs entering the hubs of the casing and partly by the outer ends of the shafts running in bearings (bearings not shown). The ball bearings on which the casing runs are adjustable from the outside by turning the small pinions shown, which mesh with teeth cut in the rims of the adjusting nuts.

### Carbureter.

No. 792,878.—H. Brasier, of Paris, France.

A carbureter whose essential features are indicated in the sectional drawing, which partly shows the float chamber in outline but not in section. Instead of a single spray nozzle two, *b b*, are used, producing a better diffusion of the gasoline spray throughout the air stream. The mixing



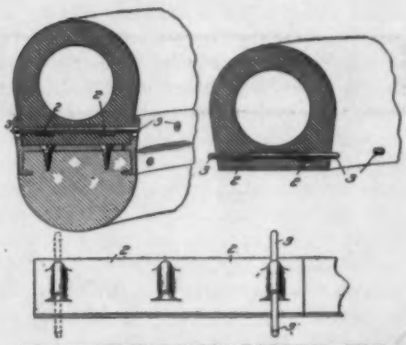

BRASIER DOUBLE JET CARBURETER.

chamber has the form of a straight, vertical pipe *a*, which is surrounded by warm water from the engine jacket. A supplementary air inlet is closed by the spring valve *c*, which is made very light and opens more or less according to the intensity of the suction. It is also regulated by hand by turning the square-threaded bushing, *f*. The form of the air passage just below the nozzle will be observed. It tends to produce the maximum velocity of the stream at the nozzles.

### Carbureter Without Float.

No. 791,192.—E. Haynes, of Kokomo, Ind.

The carbureter of the Haynes car, previously described and illustrated in these pages. It has no float, and the needle valve orifice, which opens downward, is normally closed by the apex of a conical automatic air valve sucked downward by the air stream. When this valve opens it allows a small gasoline spray to fall and spread over it, to be at once taken up by the air. Above this valve is the throttle, whose variable opening regulates the amount of air passing. To prevent the greater suction with reduced throttle from producing an excessively rich mixture, the needle valve is connected to the throttle so that rotation of the latter to close it also screws down and closes the needle valve, and vice versa.



REED'S MECHANICALLY FASTENED TIRE.

### Mechanically Fastened Tire.

No. 791,991.—G. T. Reed, of Baltimore, Md.

A tire in whose base is imbedded a metal strip *2*, having metal pins, wires, or light projections from its sides, entering holes in the flanges of the rim. These projections may be stamped in one piece with the strip *2*, or they may be pieces of wire, as shown at *3*.

### Automobile Wheel.

No. 792,649.—E. Cliff, of New York.

A wheel in which the regular elliptic or semi-elliptic axle spring is supplemented by a helical compression spring coiled around a stud within the wheel hub itself. The wheel runs on ball bearings, of which the innermost is of large diameter and runs on a casing movable vertically on the axle and supporting the lower end of the compression spring in question. The upper end fits in a housing attached to the end of the axle, which plays up and down in the casing just referred to.

### Storage Battery.

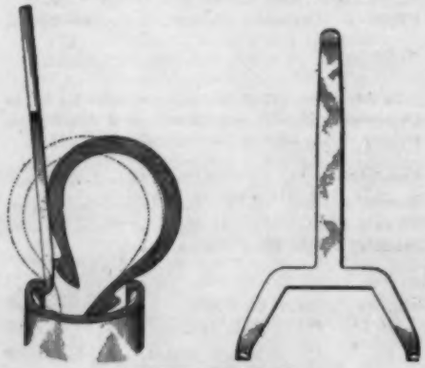
Nos. 792,611, 792,612, and 792,613.—H. C. Porter, of Waukegan, Ill.

A group of patents, the second one covering a separator for the battery, and the other two special forms of pasted grids.

### Tire Tool.

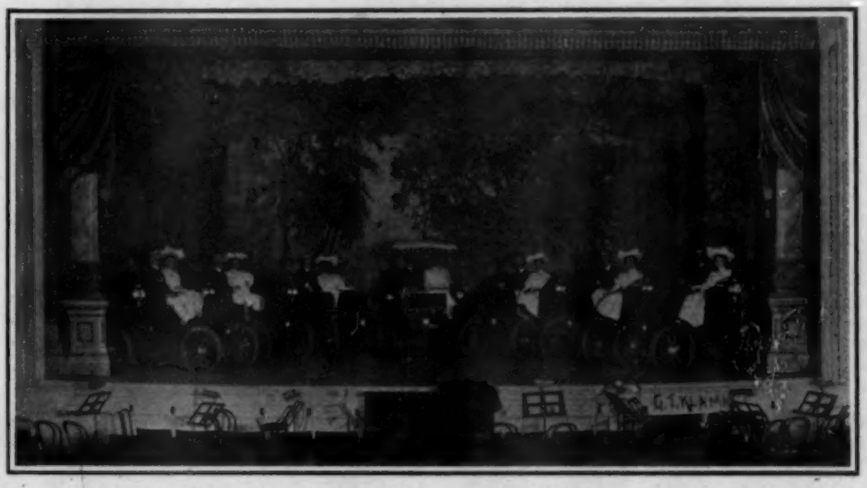
No. 792,009.—E. N. Downs, of Chicago.

A tool of the form shown, for readily getting the outer edge of the casing into the rim. With the tool in the position shown, the larger portion of the casing can be brought over the rim simply by sliding



DOWNS' TIRE TOOL.

the tool along the rim, the two prongs co-operating to prevent it from slipping out. The last portion is pried over the rim and pushed down till the bead catches the lower end of the tool, which is then swung down and withdrawn.



A very pretty and novel entertainment for charitable purposes was recently given by the social contingent of Cleveland, Ohio, in one of the local theaters. The principal part of the performance consisted of dances, typical of different nationalities, and very naturally the one receiving the most generous applause was the final number—the American dance—by fourteen young men and women, whose entrance upon the stage was made in seven Baker electrics, as shown in the accompanying illustration. The young women were most appropriately gowned in white, while their escorts wore white flannel trousers, blue coats and straw hats, which, with the dark colored cars, made a striking composition in the handsome stage setting.

THE AUTOMOBILE

VOL. XII. No. 26

Published every Thursday by

THE CLASS JOURNAL CO.,

Flatiron Building, Madison Square,

NEW YORK CITY.

Cable Address - - - - Autoland, New York
Long Distance Telephone - 300 Gramercy, New York

SUBSCRIPTION RATES:

United States, Canada and Mexico, - One Year, $2.00
Other Countries in Postal Union, - One Year, $3.00

To Subscribers—Do not send money by ordinary mail. Remit by Draft, Post-Office or Express Money Order, or Register your letter.

FOREIGN SUBSCRIPTION AGENTS:

ENGLAND:—Iliffe & Sons, Limited, 3 St. Bride Street, Ludgate Circus, London, E. C.
FRANCE:—Boyveau & Chevillet, 22 Rue de la Banque, Paris.
GERMANY:—A. Seydel, Mohrenstrasse 9, Berlin.

To Advertisers—Copy or changes in orders for advertisements should reach us not later than 5 o'clock p. m. Monday for the issue of Saturday following.



Entered at New York N. Y., as second-class matter.

The Automobile is a consolidation of The Automobile (monthly) and the Motor Review (weekly).

**Copies Printed in 1904, - - - 639,300**
**" " This Issue, - - 14,000**
**" " Since Jan. 1, - 363,500**

***Results of the French Trials.*** Reports of the French elimination trials in this issue, from the pen of our special representatives at the race, will be read with more than ordinary interest on account of the intended participation by the American team in the great race itself, July 5. Three cars will, figuratively, carry the stars and stripes in the race, and despite the enormous disadvantage of unfamiliarity with the course will, we doubt not, worthily represent the American industry.

Many will have noticed that, strangely, the trial race, in which all the conditions of the actual international meeting are practically duplicated, has not settled the debatable question as to what type of car is best suited to the course. First, second and fourth places in the French race were secured by cars (Richard-Brasier and Darracq) of comparatively low horsepower—in the case of the fourth (Darracq), the lowest in the race—while third place was won by (De Dietrich) the most powerful type car in the race. In weights, in racing trim, there is not much to choose, though it is a fair assumption that in the winner of third place the ratio of engine weight to the rest of the chassis is greater than in the other cars, and in the motor itself the nominal horsepower (130) would indicate a fining down of the material weights to the lowest possible limit.

In "getting away" the most powerful cars do not seem to have had any marked advantage. Times taken on the first mile for all cars show for the Darracq team (the lightest cars) an average speed of four seconds to the mile faster than the De Dietrich team, the heaviest and most powerful. In the first complete round the times made by the members of both these teams who were without tire troubles were remarkably alike.

As had been anticipated the race was largely a race of tires, the cars so far as their functional operations were concerned running with remarkable regularity. Of the twenty-four cars that started fifteen finished under the time allowance.

There were ninety minutes between the first and last, actual running time. Between first and second there were only eight minutes twenty-two seconds, and between the second and third one minute thirty-seven seconds. Of the cars that failed to finish only four appear to have been put out of the race by mechanical troubles pure and simple, the other absentees being stopped by mishaps due primarily to tire troubles.

As to the tires the race was a trial of abuse of tires rather than use, and there seems to be little of value for touring conditions to be learned in that direction.

Aside from the invaluable aid which familiarity with the course will give the French team, the Gordon Bennett race for 1905 will be to the team which has the best tire repair facilities along the course.

✸

***Mechanical Limitations of the Car.*** There are few, if any machines in common use that are expected to stand up and give satisfaction under such drastic tests as those to which the automobile is subjected. An automobile is designed with care so as to keep the weight as low as is consistent with strength; it is tested and tried out by experts, and the final adjustments are made by men whose long experience and mechanical knowledge makes the car an open book to them, and to whom every unusual sound, every little grind or knock, every unusual vibration, tells its own story and calls for an appropriate remedy, which is at once applied. The car is then sent to the agent, who sells it, perhaps, to a man whose knowledge of automobiles does not extend beyond the color of the body paint, and whose ideas regarding its capacity and limitations are, to say the least, hazy. This man is given a few hints by the agent, probably also a few lessons in handling the car, and is turned loose with an instruction book to work out his problem with a delicate and, to him, complex machine. He promptly becomes disgusted if the machine, suffering for lack of attention which he does not yet know how to give, fails to work as perfectly as it did in the hands of the expert. Likely as not his neighbor, who has been looking on, shakes his head and decides to defer purchasing a car until automobiles have been brought nearer to perfection.

It is true that the automobile is not perfect; and the same is true of the agricultural machine, of the printing press, of the sewing machine, of the typewriter, and of many other mechanical necessities of the age. But no one dreams of trying to get along without them, and no one thinks of condemning them because they sometimes get out of order in the hands of inexperienced operators; and though not any of these machines are as sensitive to abuse and improper handling as is the automobile, no one would be surprised if they failed to perform creditably in the hands of operators lacking in knowledge of the proper working conditions.

It is by no means necessary that a man should become a mechanic in order to successfully operate an automobile; in fact, the average man will usually do better if he does not attempt to go too deeply into constructive details all at once. What is required is a sense of the limitations of his machine; he must appreciate that there are certain condtions under which the machine will not work properly, and certain things that it cannot do. A woman usually knows nothing about the shafts and cams of her sewing machine; but she knows where the oil holes are, and if the machine runs hard or squeaks, she promptly oils it. She also knows its limitations and will not attempt to sew material that is beyond its capacity. The users of typewriters and agricultural apparatus and many other indispensable machines are not, as a rule, familiar with mechanical details, but they know very well the conditions under which the machines will work best, and the conditions which will cause trouble; and are guided accordingly.

When the automobilist learns that his machine, though capable of doing much hard work under proper conditions, has well defined limitations both to the capacity for work and the conditions under which the work can be done, he will have enhanced the value of his machine just so much, by expecting from it no more than it can do, and by maintaining such conditions that it will always do its best.

✸

***Publicity of the Wrong Kind.*** A staff writer in an English contemporary very pertinently asks: "What is the use of coaxing, hoisting or otherwise torturing a car into some ridiculous position on the summit of a cliff or in the middle of a lake—in fact, anywhere no one would think of driving," and adds, "American motorists seem to have had a very bad attack of this lately."

While we heartily agree with the text of his little dissertation, which is embodied in the preliminary query quoted, we do not agree that "American motorists" are at fault. In fact our experience, which is naturally pretty extensive along these lines, leads us to believe that our native autoists have entirely too much good sense and ap-

preciation of the proper uses of a machine to indulge in such ridiculous stunts. Not so, however, with the publicity agents of many manufacturers, who are indeed open to the sensible criticism of our contemporary. Hardly a week passes that we do not receive photographs of cars in the most ridiculous situations, accompanied by some foolish attempt at free catch-penny advertising, in which attention is sought to be attracted not by any inherent merits of the car, but simply by reason of the unsuitability of its surroundings. This is not a new manifestation of mental incapacity, but is on a par with that displayed by the man who, failing to draw the attention of his friends and acquaintances by his rational behavior, tries to do so by playing the clown. The would-be funny man and the punster are of the same species, and they usually get the attention of a class as deficient mentally as themselves.

In the automobile business there are many new comers in the various lines of publicity who have little knowledge of the subject and less discernment, and who prefer the superficial methods of the circus agent to the more laborious process of gathering interesting facts. It is not an exaggeration to say that the ineptitude for his work, which is a characteristic of a too numerous class of publicity man, is a constant source of irritation to every person seriously engaged in the publication of automobile news in the country.

✷

IN THE SCHEDULE of coming events, on this side of the Atlantic, none is of greater importance than the Mt. Washington "Climb to the Clouds," at once the most difficult and picturesque of contests of its class. The capabilities of a car for getting over ground above and beyond it are nowhere more certainly demonstrated than in the hill climbing contest in which the watch is held against the car from the instant of start to the finish. There are no unpenalized stops, depending on the judgment of an observer, and the record there obtained is one of continuous work—a record of real commercial value. The beauty and healthfulness of the surroundings make an uncommonly pleasant outing, and the presence of the Glidden and various club tourists this year will add much to the social attractions of the meeting.

**A speed guessing** contest that is on the program of the motorcycle meet to be held July 8, at the Parkway Driving Club track in Brooklyn, offers Police Commissioner McAdoo's bicycle and motorcycle policemen a good opportunity to cultivate their speed judging ability. The meet management contemplates offering four prizes for the four policemen who come nearest estimating correctly the pace of the leading rider on each of the four laps of the race. The prize in the race itself will go to the contestant who averages closest to 2:05 to the mile.

## THE PRESIDENT HELD UP.

### Stopped by Bicycle Policemen for Exceeding Speed in Hired Car.

*Special Correspondence.*

WASHINGTON, D. C., June 22.—President Roosevelt is becoming a very enthusiastic automobilist and, while he does not own a car, there is not the slightest doubt that he would buy one were he not afraid advertising capital will be made out of his purchase. This being the case he contents himself with occasionally hiring a car from one of the local garages for a spin into the country. Last Sunday a telephone message was received at the garage of the Washington Electric Vehicle Transportation Co. to send a car to the White House for the President's use that afternoon. A Columbia gasoline car was furnished, with Otto Jacobi as chauffeur.

About 4 o'clock in the afternoon the President, with his son Theodore and two of the latter's schoolmates, entered the car and was driven out the Conduit Road to Great Falls. It was on this trip that the President experienced one of those occasions that frequently confront motorists. When well out of the city Jacobi let the car out a bit and the distinguished occupants were enjoying keenly the rush of air caused by the swiftly moving car, when two of the detail of bicycle police that had been stationed on the Conduit road to restrain motorists from violating the speed regulations fell in behind the President's car and endeavored to overtake the party. After a stern chase they were successful, and they called on the President and his chauffeur to stop.

"You will have to meet me in the police court at 9 o'clock tomorrow morning," said one of the policemen, as he rubbed the sand out of his eyes. Apparently he was addressing the operator of the car, but a man in the tonneau, one dressed in khaki riding breeches, a colored shirt, heavy walking shoes and a slouch hat, made the response.

"For what reason?" he inquired.

"You have violated the speed regulations," continued the policeman, still rubbing his eyes and hunting for his note book to take the name of the offender. "You were going at least twenty-five miles an hour, and the regulations allow but fifteen miles."

When informed that he was addressing the President the officer collapsed. However, the President took the matter good naturedly, and cautioning the chauffeur to drive at slower speed, the party proceeded to Great Falls, where they left the car and proceeded to walk back to the Chain Bridge, Here they entered the car again, and were brought back to the White House without further incident.

The holding up of the President of the United States for an alleged violation of law created great excitement in Washington and the policeman who did the holding up was a little anxious until assured by his superiors that he was only doing his duty. It has since transpired that Jacobi, the chauffeur, thought the pursuing policemen were secret service men detailed to guard the President on his ride, and only wanted to make them ride a little faster than they are accustomed to do.

## FINED FOR NOT STOPPING.

The first heavy fine against an automobilist for failure to stop his machine when signaled by the uplifted hand of the driver of a team that had become frightened by the approach of his car, was recently imposed upon Dr. H. B. Crocher, of Heraldsburg, Cal., by Justice Latimer, of Windsor, that State. The amount of the fine was $250—apparently an excessive amount—and it was inflicted under the new automobile law of California. The case was appealed and in the higher court Judge Seawell, at Petaluma, handed down a decisoin sustaining the fine. The decision also upheld the validity of the law, which had been attached, the court asserting that, while open to some criticism, the law can be understood by a person of common understanding. Replying to the argument of appellant's counsel that an automobile has an equal right with the horse to the use of the highway, the court said that certainly the automobile has not a superior right.

## MICHIGAN LAW IN EFFECT.

### Owners and Chauffeurs Have Only Until July 15 to Register.

The Michigan registration and speed law, the full text of which was published in last week's issue of THE AUTOMOBILE, has been signed by Governor Warner and is now in effect. Ordinarily a new law takes effect in Michigan ninety days after the signature of the governor is affixed, but owing to the emergency in this case a special order was made putting the automobile act into effect June 15.

As the act provides that all automobile owners must register their cars with the Secretary of State and secure licenses and affix tags to their cars within thirty days from the date when the law becomes effective, they have only until July 15 to comply with the registration provisions. This affords a very short period for the Secretary of State to prepare his registration books, license forms, owners' seals and chauffeurs' metal badges, and for the several thousand owners in the State to obtain from him the necessary application blanks, fill them out, return them and secure the requisite license and badges from the Secretary and the required numbered tags for their cars from another source before they may legally drive on the public highways.

It is predicted generally in Detroit that the expiration of the period will find many unprepared and that unless an extension of time is granted, there will be many arrests, while those less bold will be deprived of the use of their cars for many days. The opponents of the bill, who believe that it embraces unconstitutional features, are awaiting developments with interest and complacency.

## MOUNT WASHINGTON HILL CLIMB.

Unless present indications are much astray there will be records broken at the Mount Washington hill-climb—the "Climb to the Clouds"—which takes place on July 17 and 18. The Napier car that was built for the Irish Gordon Bennett race has been entered for the hill climb by the Napier Company of Boston; F. E. Stanley has entered a new steam machine; Paul Sartori will drive Alfred Gwynne Vanderbilt's 90-horespower Fiat, and it is expected that Major C. J. S. Miller will enter his Fiat. In addition to classes for cars of all types, there will be two classes for motor cycles. At the request of a number of automobilists, a special class has been added to the list, this class including stripped cars with two-cylinder motors.

Several automobile clubs have decided to hold runs to Bretton Woods during the climb; these are the Vermont A. C., the Granite State A. C. of Manchester, N. H., the Newton A. C. and the Bay State Automobile Association.

## NEW COAST RECORD.

### Whitman and Hamlin Reduce Los Angeles-San Francisco Time to 37:53:00.

*Special Correspondence.*

SAN FRANCISCO, June 16.—L. L. Whitman, of Pasadena, driving the 12-horsepower Franklin Model E, in which he made a thirty-three day record across the Continent last Fall, to-day completed a run between Los Angeles and San Francisco in thirty-seven hours, fifty-three minutes, establishing a new record. The time taken is the elapsed time of the run and is against a record of fifty-three hours made last year by a 22-horsepower Packard, Model L, car, carrying four persons.

The Franklin and Packard cars are the only ones to have attempted a continuous run between the two cities. The distance is a little less than 500 miles, and the course is a very hilly one. The Coast Range of mountains is crossed no less than five times and there are several stretches intersected by a series of deep gulches where the driving is especially trying. Whitman was accompanied by R. C. Hamlin, of Los Angeles, who alternated with him at the wheel. They had no trouble with the car, but experienced a good deal of difficulty in keeping warm at night, owing to the dense fogs. At one time during the night the two men stopped by the roadside and built a fire of hay from a neighboring ranch in order to warm themselves. Streams were forded in several places and in crossing the Ventura River the water was nearly up to the body of the car.

The start was made at 12:01 on the morning of May 16, and the run was completed at Third and Market streets, San Francisco, at 1:54 p. m. to-day. The car was fitted with Hartford-Dunlop tires.

## TWO-DAY MEET AT COLUMBUS.

### Twenty-four Hour Race Leading Attraction—List of Events.

*Special Correspondence.*

COLUMBUS, O., June 24.—Governor Myron T. Herrick, of Ohio, and Mayor Robert Jeffery, of this city, together with a number of prominent business and professional men of Columbus, compose the committee which will receive the visiting automobilists on the occasion of the race meet which will be held here on July 3-4. A number of valuable trophies have been donated for the several events, the most valuable being the $500 cup for the winner of the twenty-four-hour race.

On the evening of the first day there will be an automobile parade, and on the second day there will be a daylight display of fireworks.

Judging from the number of entries already received for the races, it is evident that there will be a large number of participants. For the 24-hour race the track will be electrically lighted, green lamps being placed on the inner side and red lights on the outside. The McMurtry timing apparatus will be used.

The following is the list of events:

MONDAY, JULY 3.

Two-mile novelty race.—For touring cars fully equipped, carrying three passengers and driver. Start to be standing, with dead engines; at pistol engines to be started and driver and passengers mount their seats; at quarter, half and three-quarters, one passenger is to be dropped; passengers to be picked up on second round. Cars to come to full stop when taking on or discharging passengers.

Five miles for $2,000, Columbus Motor Derby, free-for-all.—Two starters in each heat and semi-finals, and three starters in final. Three heats to be run first day.

Twenty-four-hour Race.—Starters limited to five. One driver may cover entire distance, or may alternate with assistant. Prize, $500 trophy.

TUESDAY, JULY 4.

Three miles, for cars listing at $3,000 or less.—No restrictions as to stripping.

Two miles, for touring cars of 40-horsepower or less, fully equipped.

Five-mile handicap, free-for-all.

Five miles, for cars that have never won a race or trial heat in which car entering covered a mile on a circular track in one minute or less.

Two miles, Hancia Handicap, for championship of Columbus Automobile Club.

Three miles for touring cars of 40-horsepower or less, stripped.

Five miles, free-for-all.

Columbus Motor Derby, final heat.

Two-mile handicap for motorcycles.

## MILWAUKEE FLOWER PARADE.

### Given by Local Club for Entertainment of Visiting Modern Woodmen.

*Special Correspondence.*

MILWAUKEE, June 23.—This morning at 10 o'clock sixty automobiles, tastily decorated with flowers and bunting, assembled on Prospect avenue, and they passed through several of the principal streets of the city, forming one of the most spectacular features of the Modern Woodmen Convention.

A band occupying a large automobile truck led the parade, and was followed by Mayor and Mrs. Rose in a White touring car festooned with chrysanthemums. C. E. Golder's automobile, transformed by white paper flowers into a white swan, and containing five ladies dressed entirely in white, followed. The machine of Dr. Julius Bruess, covered with white and red flowers and carnival bunting, was one of the most attractive features of the procession.

The decision of the judges, Col. G. G. Pabst, Arthur H. Anger, president of the Milwaukee Automobile Club; Dr. Louis Fuldner, vice-president, and A. C. Clas, gave first place to Walter Stern, who drove a canopied car decorated with white and pink peonies and roped in smilax. Oscar Greenwald's car was completely screened in artificial green grass and flowered wisteria, and was awarded the second prize; C. E. Golder, of the Knox Automobile Co., won third place wth his white swan.

Bringing up the rear of the procession were two cars which caused considerable amusement along the line. One was covered with flour bags, and the driver and his companion were covered with flour from head to foot. "The Twentieth Centruy Farmer" was represented by a machine which was covered with hay, and in the hayrack were seated several young men and women.

---

Many persons who ought to know better have an idea that in some mysterious way advancing the spark increases the force of the explosion in the cylinder. This is wrong, for all the changing of the time of ignition does is to cause the explosion to occur at the most advantageous point, so that the maximum power is utilized.

We cannot pierce the Future's veil,
However hard our striving;
In fact, she must look like a maid
Who goes out auto driving.
—*New York Mail.*

## BLIND BOYS' OUTING.

### Boston Dealers Give Twenty-eight City Dependents Their First Ride.

*Special Correspondence.*

BOSTON, June 26.—Members of the Boston Automobile Dealers' Association provided ten automobiles for a unique tour last Friday. The passengers were twenty-eight blind boys from the Perkins Institution for the Blind in this city, and the run was to Sharon and return, with a stop of several hours at the farm home of the Boston Institute Seashore Home on the shore of Lake Massapoag.

None of the boys had ever been in an automobile before. A happier lot of youngsters than these when they were loaded into the cars provided for them never left the city. As soon as they were brought near the machines by their conductors they at once began an examination, and with their nimble fingers soon had the size and shape of the cars they were to ride in as clearly fixed in their minds as do most persons who have the use of both eyes. They asked few questions, but it was remarkable to see how quickly they gained a comprehension of the different parts of the machines.

Arriving at the home, sports were provided for them and a sail on the lake, and in the afternoon they were brought back to Boston. The trip was in charge of Chester I. Campbell, secretary of the dealers' association, and many of the cars were driven by dealers, among them being Kenneth A. Skinner, with a big enclosed Brouhot; E. A. Gilmore, with a Rambler; Ralph Coburn, with a Maxwell, and C. I. Campbell, with a White.

## THROUGH STRANGE LANDS.

### Gliddens Drove Nearly 9,000 Miles on World Tour Just Ended.

When Mr. and Mrs. Charles J. Glidden, of Boston, landed in New York last week, Tuesday, from the *Kronprinz Wilhelm*, they expressed themselves as delighted to be on American soil again, notwithstanding the many and varied pleasures enjoyed upon their trip around the world with their automobile. Since leaving Boston last July they had traveled 32,616 miles, of which 8,899 miles were covered in their automobile. It will be remembered that Mr. Glidden had his English Napier fitted with flanged steel wheels in St. Louis last Summer. After reaching the fair with the A. A. A. tourists from Boston and taking the car to Minneapolis, he drove westward from there over the rails of the Soo and Northern Pacific roads to Seattle and Vancouver. They sailed from Vancouver on December 9, and landed at Honolulu, where they had a two-hour ride in their car before embarking for the Fiji Islands. Ten interesting days were spent among the Fijians, who had never before seen an automobile, and at first called it the "father of devils," then, as they became less fearful of it, designated it the "boat on the road," and offered a shilling apiece for a ride—after the king, who has an unpronounceable name, and was educated in Sydney, although he is the son of a cannibal father, was given a ride.

New Zealand was the next country visited, and upon landing at Auckland a deposit of $680 had to be paid to cover the duty on the car. This, Mr. Glidden said, was the largest customs deposit he had ever made, but all but $15 was returned before he sailed for Tasmania. While in New Zealand Mr. and Mrs. Glidden toured

1,145 miles, experiencing some trouble in getting over the many fords, in some of which the water rose almost to the body of the car. In the south island of the group they reached at Bluff the most southerly point ever reached by automobile, driving over a fine road known as Ward's Parade, the most southerly road in the world.

Magnificent roads were found in Tasmania, built by the convicts, of small stones laid together by hand like mosaic. More than 2,000 miles were covered in the automobile in Tasmania and Australia, which was the next country visited, and where the roads offered a marked contrast to those of Tasmania.

Java was pronounced by the Gliddens the most interesting and attractive country visited. They drove 1,250 miles there and gave the Sultan a ride. He wouldn't risk going more than four miles an hour, whereas the King of Fiji wanted to go sixty miles an hour.

On the Malay peninsula, where thew were the guests of the Sultan of Johore, and ate out of gold dishes, they drove 300 miles, ending their automobile tour at Singapore, where they embarked for London. Their car was left in London to be overhauled, and next November the Gliddens expect to tour through India and Egypt as part of another globe girdling tour which will embrace Spain, Portugal, Algeria, Tunis, Tripoli, Sicily, Hungary, Turkey, Greece, Syria, Ceylon, Burmah, Borneo, Sumatra, the Philippines, China and Japan.

While in the United States Mr. Glidden will join the competitors for the Glidden $2,000 trophy in their tour through New England and the White Mountains, which starts at New York on July 11.

## TWIN CITY ROAD IMPROVEMENTS.

*Special Correspondence.*

ST. PAUL, June 24.—Twin City automobilists are pleased at the decision of the authorities of St. Paul and Minneapolis, to expend a large sum of money for the improvement of roads leading to the surrounding resorts.

One of the most important of the proposed improvements is the construction of a macadam road from the Twin Cities to the Interstate Park at the Dalles of the St. Croix, one of the most famous resorts of the Northwest. Plans for this improvement were made at a good roads convention just held at Lindstorm, Minn. The distance is about fifty miles, and the route passes through a chain of twenty lakes, which for their beauty of scenery are unsurpassed in the Northwest.

Plans are also under way for constructing a macadam road from St. Paul to Whitebear, St. Paul's most popular resort. Contracts have been let for improving the roads to New Brighton and Turtle Lake, and specifications are being made for grading the roads to Long Lake and Silver Lake, two popular resorts.

**If you have trouble** in starting your motor, one thing to do is to see if your inlet valve, is of the automobile type, is stuck. It takes but a moment, and may save a lot of hunting.

**Myron H. Jackson** of Muskegon, attributes his cure from tuberculosis to the use of his automobile. In the brief period of three months he has changed from sallowness to rugged health and looks ten years younger and feels like a boy. It has been the automobile that has worked this change. —Grand Rapids *Herald*.

## CONSTABLE SHOOTS AT CAR.

### Raw Jersey Officer Held in $1,000 Bail on Serious Charges.

Charles R. Van Houten, a green country constable of Union Township, New Jersey, who was recently appointed to his office in Springfield, has been arrested on complaint of Stanley Reed, chauffeur for Frederick H. Levey, a prominent ink manufacturer of New York City, and held in $1,000 bail by Justice Kelly, of Elizabeth, N. J., on the charge of having fired his revolver at Mr. Levy's automobile near Springfield on June 19.

According to the account of the shooting, Mrs. F. H. Levey, accompanied by Miss Madge Levey and Miss Chetwood, a friend, was driving out of the village of Springfield on Morris avenue, with Stanley Reed at the wheel, when a man dressed in plain clothes and wearing whiskers suddenly stepped into the road and, without displaying a badge, commanded the chauffeur to stop. Instead, Reed increased his speed, and the man began shooting at the car. One bullet hit the spokes of one of the wheels and was deflected into the machinery beneath the car.

The women were badly frightened, and when their story was told to Mr. Levey he at once took the matter to the authorities and engaged District Judge Gilhooley, of Elizabeth, to prosecute the person when found. Two warrants for his arrest were sworn out, charging him with assault with intent to kill and with assault with intent to do bodily harm. It is said that Van Houten admitted having fired at the car, saying he did so because it was running too fast, but that he did not intend to hurt anyone. Reed declared that the machine was going only about sixteen miles an hour, and that he would have stopped had he known the man was a constable.

## CINCINNATI LICENSE LAW.

### City Council Committee Wrestling with Registration and Speed Act.

*Special Correspondence.*

CINCINNATI, June 26.—An automobile ordinance that was introduced in the City Council of Cincinnati during the last week of May was referred to the committee on Law and Contracts, which is not yet ready to report on it.

As introduced, the ordinance provides that all automobiles must be licensed and carry number plates bearing, in addition to the license numbers in aluminum figures, the word "Ohio" in letters arranged perpendicularly, and also the year in which the license is issued. It restricts speed to seven miles an hour on any street within that portion of the city bounded by Water, Court and John streets and Broadway, and to fifteen miles anywhere in the city outside of that district, except in parks, where it is seven miles. It requires a horn, bell or whistle, lights between sunset and sunrise, and requires observance of the rules of the road. Non-residents are exempt from the licensing clause if their cars carry the license numbers of any other state or city. As the state law of Ohio does not require the licensing of cars or operators, this city ordinance is designed to fill the place of the usual state registration law.

The members of the committee to which the ordinance was referred cannot agree upon certain amendments they want made in the ordinance. Two points on which they disagree are as to the manner of creating a fund to buy license tags and the amount of the license fee. Some want the fee fixed at more than $3, the amount which the original ordinance provides shall be paid annually. Committeeman Charles H. Urban, who has the matter in charge, says that several amendments will undoubtedly be adopted.

Mayor Julius Fleischman, through whose office the measure was introduced, is an enthusiastic automobilist.

Valentine Duttenhofer, Jr., president of the Cincinnati Automobile Club, is having printed for distribution to the members of the club a book which will contain, in addition to the local ordinance, when it is passed, the state laws of Ohio (speed law), Indiana and Kentucky, the police rules of Cincinnati (rules of the road), and also the club constitution and by-laws.

## FIGHTING LOW SPEED RULES.

### Bay State Association Opposing Restrictive Action of Massachusetts Towns.

*Special Correspondence.*

BOSTON, June 26.—Through the Massachusetts State Automobile Association the automobilists of this commonwealth are waging an animated war against the special speed regulations that have been adopted by the towns under the speed law passed by the Legislature last spring. It was expected when the bill was proposed that it would have the effect of making the speed limits on outlying roads more liberal. As a matter of fact, however, the first effect of the law has been to cut down the speed limits as provided under the general law. Instead of increasing the limits to twenty miles, as the automobilists expected they would do, the boards of selectmen in many places have reduced the limit from fifteen miles to ten, and in some places have excluded automobiles altogether from many streets. Several towns have passed orders under which an automobile cannot be operated legally on any of the principal streets.

The Bay State Association, which is composed of the Massachusetts, Bay State, Berkshire, Springfield, Wachusett, Worcester, and Brockton clubs, is keeping close watch upon the villages, and as fast as special regulations have been published, as required by law, have sent emissaries to get up protests against the regulation. In many cases the necessary ten taxpayers of the village and forty other residents of the State have been secured without difficulty and the protests are on file with the Highway Commission, but in a few instances the automobilists either have been unable to secure signers or have failed to secure them within the fifteen days allowed by law for protests, and so the special regulations will stand. The Highway Commission is obliged by law to hold a hearing in any city or village against whose regulation a protest is brought. This will mean that the Commission, and representatives of the automobile interests, will be kept very busy this summer traveling about the state for hearings.

None of the special regulations is valid as yet, as the roads have not been posted with the signs provided by the Commission. These signs are being prepared as rapidly as possible and will be sent out as soon as they are ready. It is expected that there may be some prolonged litigation as the result of the action of the towns in prohibiting the use of automobiles on highways. It may be claimed that the law is unconstitutional. The automobilists hold that the highways are public property and free to all, that the towns have no right to discriminate against a particular person or per-

sons because he or they prefer to use a vehicle not approved by boards of selectmen.

One of the towns that has used its power to exclude automobiles is Ashfield in Franklin county. As soon as it was learned that this town had passed an excluding regulation a member of the Worcester Automobile Club made the hundred-mile journey to the town. He was unable, however, to secure ten signers to a petition, as the taxpayers of the town are not in favor of automobiles, and there is only one owned in the community. In Lenox and Stockbridge the automobiles are to be prohibited on certain mountain roads, but they will not be interfered with on the regular roads. Nantucket has re-enacted its four-mile rule on the principal road on the island, and a dozen or more towns have passed ten-mile-an-hour rules. Not a single town has taken advantage of that part of the law which permits a speed higher than the fifteen miles permitted by the general law.

## NEW JERSEY ROAD SIGNS.

### Result of Work of Monmouth County A.C. —To Improve Roadway.

*Special Correspondence.*

ASBURY PARK, N. J., June 26.—Automobilists who find it easy to get about in Monmouth county this summer, because of the number and accuracy of the sign boards, indicating the direction and distance to the various towns, have the Monmouth Autobile Club to thank. This organization, with headquarters in Asbury Park, inaugurated a campaign last year that had for its object the proper designation by finger boards of all the roads in the state, and succeeded so well that one cannot travel any distance along the shore without noting these plain white boards with the black lettering at every turn and cross road.

When the absence of sign boards and the trouble automobilists were having to find their way around were brought to the attention of the club members, they looked up the law and found that about thirty years ago a statute was passed by the legislature making it obligatory upon township officials to erect and maintain sign boards all over the state. This act carried a penalty of ten dollars for every sign board not in place. The club committee started its work by notifying the township authorities in Monmouth county of the fact that the law was being disregarded, and the officials took up the matter with commendable promptness.

Ocean Township, adjoining Neptune, in which Asbury Park is situated, was slow conforming to the request of the club, but the work was finally done. The club members are now constantly on the look-out for places where these sign boards are needed, and whenever the want of one is apparent the proper township committee is communicated with. Through its efforts the club has made it possible for a stranger to drive anywhere in Monmouth county without being obliged to make inquiries concerning the roads.

The club wants the road between Red Bank and Keyport improved, and will work to that end this Summer. It is now a dirt road, hard enough in dry weather, but poor in the winter and spring. Efforts are being made to have the stretch macadamized.

Eagle Hall, on Main street, formerly occupied by the club as headquarters, has been secured by an automobile dealer and is now used as a garage, and new club rooms will have to be obtained. Former State Senator James A. Bradley, while not the owner of a car himself, is very much interested in the club, and has offered them the free use of a large room in the building on the corner of Main street and Sewall avenue. Mr. Bradley has been made an honorary member of the club.

N. H. Kilmer is the president of the club; W. N. G. Clark, vice-president, and George W. Pittenger, secretary-treasurer. The contests and tours committee, consisting of C. R. Zacharias, Dr. J. F. Davison and Mr. Pittenger, is co-operating with the Asbury Park Public Grounds Commission in the plans for the automobile parade to be held here this Summer.

## NEW PUBLICATIONS.

Under the title, "My Automobile," a record book for automobilists has been issued by Dodd, Mead & Co., Publishers, 372 Fifth avenue, New York. The book is worked out on original lines, and contains a number of convenient features. Spaces are provided for owner's name and address, description of car, and so on; then there is a space for a photograph of the machine, to be used as a "frontispiece," and a page for repair station addresses. The rest of the volume is devoted to forms to be filled in with particulars of trips and tours, and opposite each form is a blank page on which an outline map of the journey may be sketched or on which photographs may be pasted. The book winds up with a page ruled for an expense account, followed by a number of blank pages. On the inside of the cover is a pocket for maps and other papers. Measuring 4 3-4 by 7 1-2 inches, the record will go nicely into a pocket, and it contains space for a great number of tours. The price is one dollar.

*Interstate Automobile Register and Tourists' Guide*, by F. S. Blanchard & Co., Worcester, Mass. The first number just issued, covering the New England States, is a very ambitious and comprehensive compilation and publication. The guide book is accompanied by a large cloth-mounted map of the states covered (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont), showing clearly the best roads for automobile touring. The book contains detailed directions for nearly 650 main routes, in the course of which several thousands of cities and villages are reached, each place being described separately in a gazeteer embodied in the book. Reference figures in the book serve to locate each place both on the map and on the touring route in which it is included; hotels and garages can also be found readily. A vase amount of time and labor evidently has been expended on the road directions, which, though brief and condensed, give all necessary information, the data having been obtained from automobilists familiar with the roads and from others whose knowledge was trustworthy. Road surfaces, hills, bends and corners, bridges, bad spots and so on are described; full-page maps of the principal towns are printed, showing automobile routes through them, distances and other information likely to be required by the tourist. The book contains a very extensive list of registered automobiles in the states mentioned, together with their numbers and the names of their owners. State laws and local ordinances in force in New England are published in full. Thirty pages are devoted to a classified directory of dealers in automobiles, automobile supplies and accessories and garages, classified according to the goods handled. In short, the book, consisting of more than 400 pages, appears to contain about all the information that can be gathered on the subject, and an excellent index makes it a simple matter to find information on any particular point. The volume measures five by nine and a half inches, not too large for a good-sized pocket, and the map folds into the same compass. A number of blank pages are inserted at the end, upon which memoranda concerning roads and so on may be jotted down by the tourist for future reference.

*Motor Traction.*—For some months an English contemporary, *The Autocar*, has published as a supplement *Motor Traction*, a publication devoted to the commercial vehicles. Now, however, the supplement has branched forth and has become a separate weekly periodical. The new paper has the advantage of an excellent start, not having to go through the incubation period that usually falls to the lot of a new publication, and its advocacy of what is undoubtedly the most promising future field for automobiles is a sign of the times. It is published in the same office as the parent paper, at 20 Tudor street, London, E. C.

*The Book of the Automobile*, by R. T. Sloss, published by D. Appleton & Co., New York. The volume is opened by an introduction of considerable length and much interest written by Dave Hennen Morris, President of the Automobile Club of America, dealing with the automobile in its broadest aspect. Thereafter the work follows conventional lines, the opening chapter being devoted to descriptions of historical cars, not forgetting good old Cugnot and his steam gun-carriage. Subsequent chapters take up successively and in detail the gasoline motor and its component parts and accessories; the steam engine, as adapted to automobile propulsion; the electric motor; the transmission and control of power; steering gears and brakes; the chassis; types of gasoline and steam motors; the choosing, care and running of automobiles; commercial cars; the automobile in sport; and touring. Winthrop E. Scarritt, ex-president of the Automobile Club of America, has written an article on Automobile Legislation, which is included in an appendix, together with the Gordon Bennett cup race rules, a glossary of English, French and German automobile terms, and some information concerning speed trials and power tests.

The book has been carefully arranged and should be interesting and instructive to novices who desire general information concerning the automobile. To the practical automobilist, however, there are lapses that show that the author is not intimately acquainted with the practical side of his subject. For instance, the surprising statement is made that it is safer to sit on an open keg of gunpowder with a lighted cigar than on the seat of an automobile whose motor has a cast-iron flywheel! This will be bad news to the automobile manufacturers, practically all of whom use cast-iron flywheels. The statement that "a large majority of the fatal automobile accidents have been due to bursting flywheels" is amusing, in view of the fact that accidents, fatal or otherwise, from bursting flywheels on automobiles are almost if not quite unknown. Many of the suggestions made for the benefit of the novice are, to say the least, of doubtful value, and some are simply incorrect. The beginner may, however, obtain an excellent general idea of the construction and operation of the automobile and the progress that has been made since the first practical machines were built. An entertaining style is maintained throughout, so that reading does not become "wading."

## MOTORCYCLE CHAMPIONSHIP MEET.

Two motorcycle championships and a novel contest designated the "Hang Together" race, are among the events scheduled for the motorcycle race meet to be held July 8, at the Parkway Driving Club

track in Brooklyn, under the joint auspices and management of the Federation of American Motorcyclists and the New York Motorcycle Club. The two championships are open to all machines of F. A. M. standard weight, but featherweights, specials and two-cylinder machines will be barred from the regular events. Full roadster motorcycles will be permitted in the novice and pursuit race.

In the three-mile "Hang Together" race, a pacemaker will set a two-minute pace for the "bunch" to the final quarter, when there will be a sprint to the tape. Any competitor who does not keep within fifty yards of the pacemaker up to the last quarter will be declared distanced, and any who runs ahead of him will be disqualified. Entering the home stretch on the last lap the pacemaker will drop out.

## SOME BEGINNERS' TROUBLES.

### Novices Forget Fuel and Spark Plugs—One Drives Home on Reverse.

*Special Correspondence.*

SYRACUSE, June 26.—Automobiles have only lately been introduced in Carthage, a village about ninety miles north of here, and some weird experiences are reported. Guy C. Jones, a well-known manufacturer, had some trouble in starting his new machine one day. The gasoline tank was full and the machinery seemed to be in good order, yet the machine wouldn't go. Finally somebody asked Mr. Jones if his spark plug was all right. Then Mr. Jones suddenly recollected something, and reaching in his pocket, took out the plug and inserted it in its proper place. Then there was no further trouble.

Somewhat similar was the experience of M. S. Wilder with his new Reliance. After the car refused to go for some time, somebody remembered that the gasoline tank had to be filled with something more substantial than air.

The strangest experience, however, was that of B. P. Layng, also the proud possessor of a new machine. He had a party out riding in the country, when the car balked. Mr. Layng found that it would back up, but wouldn't go ahead, so he secured a horse and carriage for his friends, but, scorning to have his new automobile hauled ignominiously into town by a horse, he climbed onto the dashboard and started to back it toward town. With the exception of a telegraph pole or two that got in his way, he got along all right until he made the turn to drive the machine into the barn. Then, because he was sitting on the dashboard instead of on the seat, he got twisted and pushed the high speed lever instead of the brake, as he intended. The next instant the big machine landed full tilt into the side of the house and Mr. Layng was reposing on the ground. However, neither he nor the machine was badly hurt, though Mr. Layng has conceived an antipathy to dashboards.

**Winton Bullet** No 2 has been sold by the Winton company to a wealthy sportsman, who asked that his name be withheld, and Earl Kiser will drive it. The purchase price is said to have been $15,000. The Winton company has been anxious for some time to dispose of the car, because, so long as it owned the car, it was practically obliged to allow it to continue in the racing game. A number of improvements have been made to the car, including the addition of a reversing gear. This leaves the Winton company without any racing machines, as *Bullet No. 3* has been entirely dismantled.


## CLEVELAND CLUB TOUR.

### Members to Drive from Buffalo to Rochester and Seneca Valley.

*Special Correspondence.*

CLEVELAND, June 26.—The Cleveland Automobile Club has entered upon a systematic membership campaign, and to aid in this work has created a new office of assistant secretary and has hired for the position Charles Marvin, a local newspaper man of considerable experience. He will promote the interests of the club in every way possible, building up the membership, taking charge of runs, race meets and shows. It is believed that the innovation will result in greatly strengthening the organization and creating new interest in its work.

The club will hold its first long distance run of the season during the week of July 4. The members will start Friday, June 30, shipping their cars by boat to Buffalo, or traveling overland if they desire, and on Saturday, July 1, they will drive to Rochester. The final destination is Watkins Glen, in Seneca Valley. The run has been well advertised, and it is believed that many of the membership will participate. Last year the club made a tour during the same week around Lake Erie, and the run was most enjoyable. This one should be even more pleasant, as the scenery in the Seneca Valley is among the most beautiful in New York State. Arrangements have been made for excellent hotel accommodations as well as for repairs on the road.

Long distance touring is becoming more popular than ever among local operators, as a result of the club touring competition, for which a number of the Cleveland club members have entered.

## CROSS COUNTRY RUN.

### Philadelphia Club Begins Arrangements for Annual Brasier Cup Run.

*Special Correspondence.*

PHILADELPHIA, June 26.—This year's country run of the Automobile Club of Philadelphia for the H. Bartol Brazier Cup will be over a route which will test the qualities of every contesting car to the limit. Not only will the route be one-third longer than last year's, but the country to be traveled is hilly in the extreme, while the roads themselves will be nothing to boast of.

As was the case last year, the route selected is four-cornered. The points where time-cards are to be signed are the start and finish in front of the Bellevue-Stratford; Newtown, a score or more miles northeast of the city; Norristown, 20 miles across country in a west-southwest direction and 17 miles from this city, and Wilmington, 28 miles southwest of here, and between 35 or 40 miles from Norristown.

Contestants, apart from the necessity of having their time-cards signed at the points mentioned, are to be given a free foot as to the selection of the most practicable routes between stops. There are no direct roads, except on the first leg between Philadelphia and Newtown and on the last leg from Wilmington home.

The length of the course by the shortest possible route is something more than 100 miles; but the shortest route is by no means the best one, and this feature will give the contestants something to ponder over in the months that will intervene before the day of the run, which is scheduled for October.

## WORCESTER CLUB PROSPEROUS.

*Special Correspondence.*

WORCESTER, MASS., June 26.—The growth of the Worcester Automobile Club has not been of the mushroom order by any means, but its remarkable growth and the increased interest in its affairs within the last six months are worthy of note at this time.

The present organization is a reorganized club which was originally started back in the early days when steam carriages began to make their appearance in this city. During the first three years the membership was small, being limited to the owners of these steam cars.

Interest began to lapse; the club members were not active, and as a natural result the organization declined. As the number of cars in the city slowly but steadily increased there seemed a general demand for a reorganization of the club, and this was effected February 16, 1901, and since then interest has not waned.

The membership limit, originally set at 100, had to be increased to 150 at a recent monthly meeting, and from the present outlook this figure will soon be reached.

From the charter membership of 16 in 1901, the club had only 22 names on the roster last October, but to-day there are 120 members in good standing on the list, and a number of applications awaiting action at the next meeting of the club Eleven were admitted to membership at the June meeting.

## NEWS NOTES OF THE CLUBS.

AURORA, ILL.—At its recent annual meeting the Aurora Automobile Club elected the following officers for the ensuing year: Dr. James E. Selkirk, president; W. S. Ferris, vice-president; Dr. Edward J. Sill, secretary-treasurer; E. C. Pratt, assistant secretary. The secretary's report showed the club to be in good financial condition, a substantial balance remaining to its credit from last season's work.

HARVARD, ILL.—The annual meeting of the McHenry County Automobile Club resulted in the unanimous re-election of the following officers: A. J. Olsen, president; E. B. Manley, J. H. Patterson, B. H. Taber, John Douglass and E. G. Westerman, vice-presidents; A. S. Towne, secretary; E. C. Jewett, treasurer; A. J. Olsen, F. W. Buell, John Whitworth, George L. Murphy, E. L. Axtell and E. R. Conyers, directors. About fifty members were present.

WORCESTER, MASS.—An effort is being made to organize a motorcycle club here. Lincoln Holland, who for a number of years has been identified with the bicycle business in this city, is leader of the movement, and is meeting with much success, more than twenty machine owners having signified their intention to become members. There are about forty motor-cycles owned here, and it is expected to enlist all owners in a short time.

**Deputy Chief Avery**, of the Worcester, Mass., fire department, is using a steam runabout in answering alarms.

# CLEVELAND MAKERS PLAN EXTENSIONS.

## Baker to Build $200,000 Plant to be Completed in November.—Winton and Peerless to Make Additions this Year, and White to Start Work on New Site.

*Special Correspondence.*

CLEVELAND, June 26.—Building preparations are again the order of the day in Cleveland. Last year at this time nearly all the local automobile manufacturing concerns were either erecting new factory buildings or putting up additions, but despite the improvements made at that time, all of them now find it necessary to make further extensions to take care of the business in sight for next year.

Announcement was made a short time ago that the White Sewing Machine Company had secured a new factory site and was planning a large plant. It is understood that at least a portion of the plant will be completed in time to take care of some of next season's business.

For the past two years the Baker Motor Vehicle Company has been figuring on a new plant, and some time ago a site was purchased adjoining that of the American Ball Bearing Company, with which the Baker interests are closely affiliated. It is now announced that this new plant will be built at once so that next season's product can be turned out there. The plant will immediately adjoin that of the American Ball Bearing Company, near Lake avenue, on the west side of the city, and the power station of that company will be enlarged to supply power for both plants. The main building will be 200 by 300 feet and three stories high. It will be L shaped and designed so that additional wings can be erected as needed. In the rear of the plant will be a blacksmith shop 40 by 100 feet. The cost of the plant will be about $200,000, about one-half of which will be spent for machinery and equipment which will be purchased in addition to the already large equipment at the present Baker plant. The buildings will be brick and steel and special attention will be paid to fire protection. It is expected the plant will be completed by November 1.

The Peerless Motor Car Company is preparing to erect two new buildings adjoining the large factory building which it erected last year on Oakdale street in the East End. There will be a large power plant to supply power and light for other buildings, as well as a new manufacturing building 260 by 106 feet, one story high and having a gallery.

The Winton Motor Carriage Company will erect a new office building and several large additions to its plant, work on which will be started soon. The Winton Company finds that its local garage building, a fine four-story brick building constructed three years ago, is not large enough, and it has had plans prepared for an entirely new building, which will adjoin the old garage on Huron street near Euclid avenue. The new building will be only three stories high, but it will have considerably more floor space than the old building. It will be completed in time for next season's business and will be utilized exclusively by the Winton Company.

## WORCESTER DEALERS ORGANIZE.

*Special Correspondence.*

WORCESTER, MASS., June 26.—The automobile dealers of this city, with but three exceptions, have organized the Worcester Automobile Dealers' Association and have announced a schedule of prices for storage, repairs and supplies which are in many instances higher than the rates of last season.

The dealers in the Association are: Harrington's Auto Station, Norcross and Shiland Co., B. A. Robinson, and Central Automobile Exchange.

A. K. Miller is president of the Association, and Harry E. Shiland secretary and treasurer.

The Palace Auto Station, Smith & Bean Agency, and Worcester Automobile Company, the president of which, John A. Dean, was the first dealer in the city, are outlaw dealers.

## CAPS BROTHERS EXPANDING.

*Special Correspondence.*

KANSAS CITY, June 22.—Caps Brothers of this city, who have been manufacturing automobiles on a small scale, have decided to expand, and to-day incorporated under the laws of Kansas, with a capital of $250,000. They have bought a factory site in Sheffield, a manufacturing suburb, the tract embracing about thirty acres, and has a frontage on Independence road of 1,800 feet.

Three main shops are to be built—a machine shop, assembling shop, and a woodworking or finishing shop. Three hundred men are to be employed. Four types of cars will be built—touring cars, heavy trucks, light delivery wagons and a farmer's auto. The last named is to be a combination car, adapted to many purposes about the farm, such as drawing a plow, furnishing power for threshers, or, with the addition of a body, as a passenger or freight vehicle. No plans regarding this innovation have been announced.

Caps Brothers will merge their interests in the new company, which will be known as the Farmers' Auto Motor Car Company. F. Burleigh Johnson of Hays City, Kan., is president of the new concern; E. Caps of Kansas City, secretary, and J. K. Hudson of Topeka, Kan., chairman of the Board of Directors.

## RECENT INCORPORATIONS.

Motor Boat Co., of Cuba, Hartwick, N. Y.; capital $20,000. Directors, William W. Caldwell, of Brooklyn; James M. Motley, of New York City; Ashbel Green, of Bedford, and H. J. Metz, of Cuba.

The Vignet Company, New York; capital, $1,000; automobiles. Directors, H. H. Havemeyer, Greenwich, Conn.; Arthur Havemeyer, Fair Haven, N. J., and C. P. Jaeger, of New York.

Park Auto Co., Wilmington, Del.; capital, $20,000; deal in automobiles.

Niagara Falls Automobile Transit Co., Niagara Falls, N. Y.; capital, $5,000; Incorporators, George L. Casler, George L. Cook and Arthur Vester, all of Niagara Falls.

The Alaska Automobile Transportation, Tacoma, Wash.; capital, $500,000. To operate automobiles from Nome on Bering Sea to Solomon City.

Staunton Automobile Transportation Co., Staunton, Va.; capital, $10,000; general livery business. President and General Manager, J. E. Porter; Treasurer, W. C. Bosserman; Secretary, W. H. Hyer, all of Staunton.

Albert Champion Co., Boston, Mass.; capital, $5,000; to deal in automobiles. President, Albert Champion, Boston; treasurer, Frank D. Stranahan, Brookline; clerk, Spencer W. Stranahan, Brookline.

Essex Motor Car Co., Brookline, Mass.; capital, $100,000; to manufacture motors. President, Arthur Lovering, Brookline; treasurer, Lawrence W. Cushman, Brookline; clerk, Frank O. Brannan, Cambridge, Mass.

Central Automobile Co., Pittsfield, Mass.; capital, $15,000; to manufacture automobiles. President, Franklin Weston; treasurer, L. A. Merchant; clerk, E. H. Kennedy, all of Pittsfield.

## NEWS AND TRADE MISCELLANY.

The American Sanitation Company, of Chicago, has about completed plans for the erection of its factory for the manufacture of automobile street sprinklers and sweepers.

H. C. Comstock, formerly with the Victor Rubber Co., has been appointed New York manager of the Swinehart Clincher Tire and Rubber Co, with offices at 1773 Broadway.

Automobile Top and Cover Manufacturing Co., formerly located at 248 West 54th street, New York, is now occupying its new and more commodious quarters at 148 West 56th street.

The Wayne Automobile Co. has established new agencies at 613 Davenport street, Omaha, Neb., with Robert W. Clark in charge, and at 424 Fourth avenue, South, in Minneapolis, Minn., with George W. Caplin as manager.

Carrying six persons from the Mansion House to the topmost point of Mount Penn, F. B. Stockbridge of the Philadelphia branch of the Reo Motor Co. cut the previous record of seventeen minutes more than half, making the trip in eight minutes.

An automobile race meet will be held at Mineola, L. I., on Tuesday, September 26, under the auspices of the Agricultural Society of Queens-Nassau counties. Six events have been planned to date, and they will be conducted under the rules of the A. A. A. Entries will close September 16 with Thomas H. Bacon, Secretary, Jericho, N. Y.

A recent addition to the automobile stores along the "Row," in Philadelphia, is the La Roche Automobile Co. (Registered), at 236 North Broad street. The new firm, which is composed of William H. Brines and Maximilian F. La Roche, has received the agency for the Wolverine chainless, and will also do a general repair and garage business.

The *Automobile Review*, of Chicago, has been purchased by and is now the absolute property of W. B. Canis, Joseph D. Porter and E. Ralph Estep, and will be published in new form and under the new name of *The Motor Way*, the first issue of which will appear July 6. W. B. Canis, formerly with *Motor Age*, is business manager; J. D. Porter has left *Automobile Topics* to act as advertising manager for the new enterprise, and E. R. Estep, who gave up the editorial chair with *Motor Age* a few weeks ago, has charge of the editorial end of the paper.

The Fairmount Engineering Works, which makes the Chadwick cars, has abandoned its old quarters on Callowhill street, Philadelphia, and moved to a much larger establishment on Spring Garden street. The new plant will afford plenty of room for growth, as the floor space totals seven times as much as that of the old factory. As Spring Garden street is one of the main highways leading from Broad street to Fairmount Park and the Lancaster pike, the new location insures a still further growth of the company's repair business, which has made tremendous strides since the first of the year.